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MEMORANDUM

SUBMITTED TO: M. V. Cummings, U.S. Environmental Protection Agency
PREPARED BY: Gary A. Jensen, ICF Technology, Inc. *G.J.*
THROUGH: James M. James, Ecology and Environment, Inc. *JMJ*
DATE: August 6, 1990
SUBJECT: Completed Work
COPY: Marcia Brooks, Ecology and Environment, Inc.

This list is for the attached completed:

PA ☐ PA Review ☐ SSI ☐ LSI ☐

Other RCRA PA

Site Name: Autek Systems Corporation

EPA ID#: CAT000623835

City, County: San Jose, Santa Clara

State Recommendation:
(for Reviews only)

FOR EPA USE ONLY

CERCLIS Lead:

EPA

PA-1 complete, NFRAP

MWC 8/28/90

*revised 8/28/90
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(2909)



ICF TECHNOLOGY INCORPORATED

ENVIRONMENTAL PRIORITIES INITIATIVE PRELIMINARY ASSESSMENT

SUBMITTED TO: M. V. Cummings, U.S. Environmental Protection Agency, Region IX

PREPARED BY: Gary A. Jensen, ICF Technology, Inc. *G.A.J.*

THROUGH: Tara Abbott, Ecology and Environment, Inc. *TA*

DATE: August 6, 1990

SITE: Autek Systems Corporation

TDD#: F9-9004-015

EPA ID#: CAT000623835

**PROGRAM
ACCOUNT#:** FCA1462RAA

**FIT REVIEW/
CONCURRENCE:** *[Signature]* *M. James* *8/10/90*

COPY: FIT Master File
Karen Schwinn, Environmental Protection Agency, Region IX

1. Introduction

As part of the U.S. Environmental Protection Agency's (EPA) Environmental Priorities Initiative (EPI) program, EPA has requested that ICF Technology, Inc.'s Field Investigation Team (FIT), subcontractors to Ecology and Environment, Inc., conduct a Preliminary Assessment (PA) of Autek Systems Corporation located at 109 Bonaventura Dr., San Jose, California.

The EPI program integrates the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) in order to set priorities for cleanup of the most environmentally significant sites first. The PA uses CERCLA Proposed Revised Hazard Ranking System (rHRS) criteria to prioritize facilities for the RCRA program.

2. SITE DESCRIPTION

2.1 Site Location and Owner/Operator History

The former Autek Systems Corporation (Autek) site is located in a commercial area in northwestern San Jose, at 109 Bonaventura Drive (Township 6 South, Range 1 West, Section 24, Southwest 1/4, Mount Diablo baseline and meridian; Latitude 37°23'12"; Longitude 121°54'54") (1). A site location map is included as Figure 1. From 1980 to March of 1990, Autek operated a printed circuit board manufacturing facility which is classified as a small waste quantity generator under RCRA (3,4). Autek applied for a RCRA Part A Permit on November 10, 1980, and was issued an Interim Status Document (ISD) by the California Department of Health Services (DHS) on April 6, 1981 (2,5).

The size of the property is approximately 37,000 square feet and is bordered on the north, west and south by industrial areas and to the east by a stockyard with cattle. The former facility covered approximately 17,000 square feet and consisted of three main manufacturing areas: the machine shop, the main electroplating room, and the tip-plating room (see Figure 2) (2,7). The facility also housed a bermed chemical storage area for virgin chemicals. Hazardous wastes were stored in 55-gallon drums in a separate on-site bermed storage area and in process tanks located in the electroplating room. The capacity of the hazardous waste storage area in the electroplating room was approximately 30 drums. Currently no hazardous materials are stored at the site (7).

Autek leased the site property from owners Roger and Wendy Mairose from 1979 to 1990. The site was not occupied by anyone prior to Autek. Currently the facility is vacant. The property is still owned by Roger and Wendy Mairose (8).

2.2 Facility Process and Waste Management

2.2.1 Historical Facility Processes and Waste Management

From 1980 to 1990, Autek operated a facility in which printed circuit boards were manufactured, primarily in the electroplating room. The circuit boards were coated by dipping the boards into chemicals contained in process tanks located in the electroplating

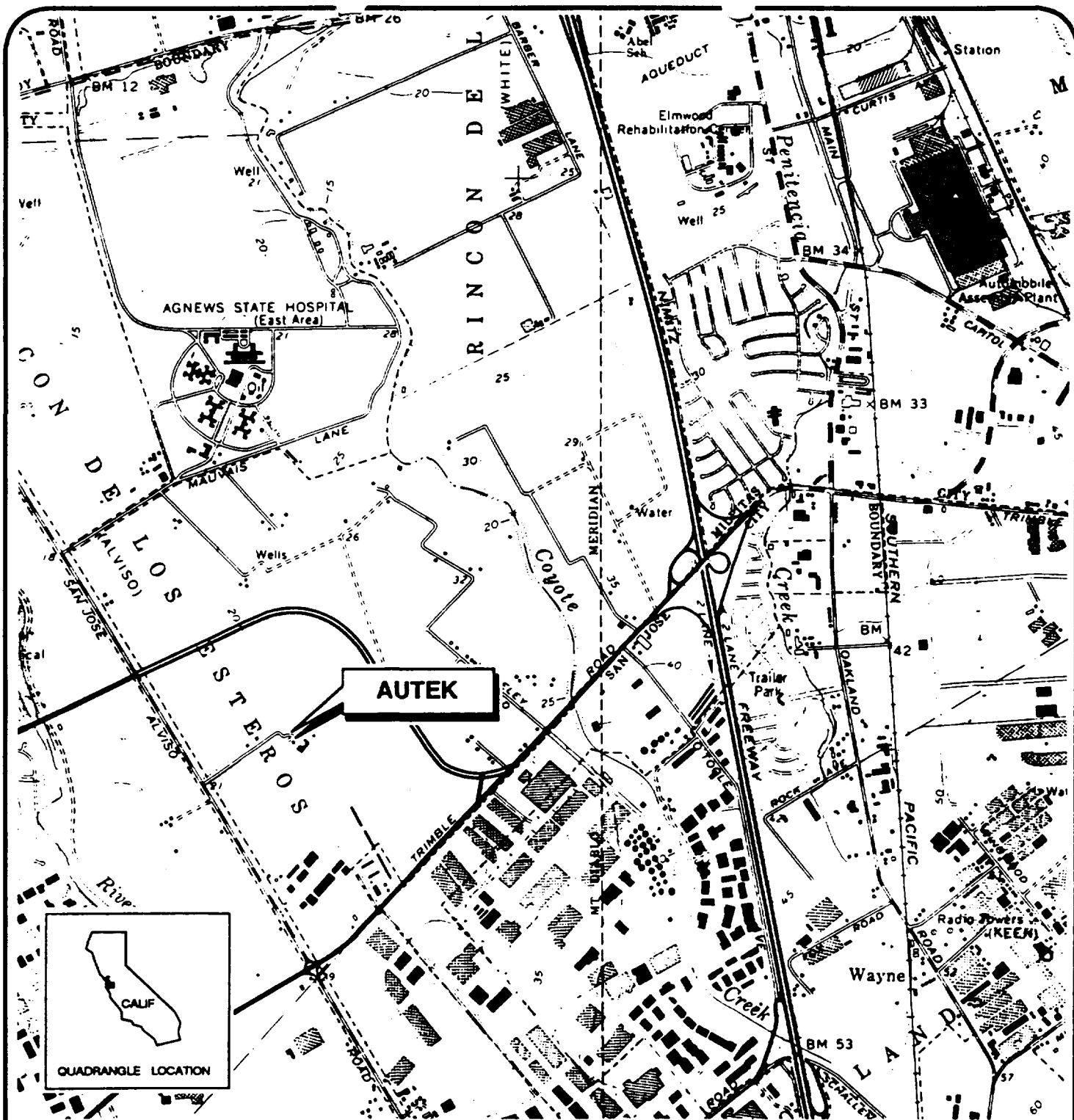


Figure 1 Site Location Map

Autek Systems Corporation
109 Bonaventura Dr.
San Jose, CA

SCALE: 1 : 24000

0 1/2 1 MILE

Source: U.S. Department of the Interior, Geological Survey. Milpitas. 7.5 Minute Series (topographic) 1961. (Photorevised 1980).

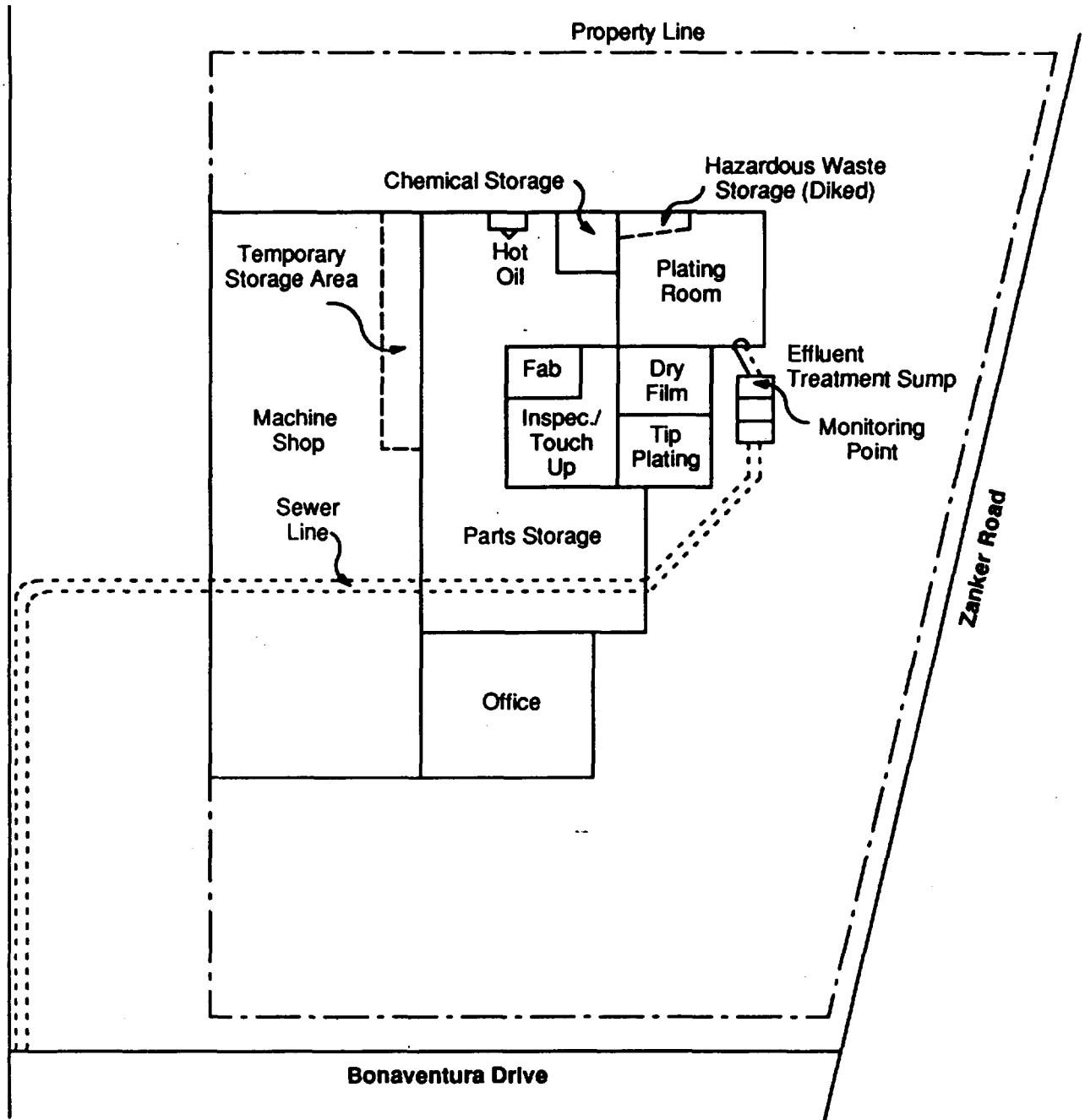


Figure 2 Facility Layout

Autek Systems Corporation
109 Bonaventura Drive
San Jose, CA

Not to Scale



Source: San Jose/Santa Clara Water Pollution Control Plant Industrial Wastewater Discharge Application
 October 1, 1985.

room. The boards were then removed from the tanks and rinsed with water. The rinse water from the boards was allowed to drip onto a concrete floor which was covered with a wooden grate, and from there the rinse water drained to the feeder pipe leading to an on-site, below-grade, wastewater neutralization sump (7). The wastewater neutralization system consisted of a three stage settling sump (capacity of 1,200 gallons) which employed an automatic pH monitor and control (9).

The wastewater was neutralized in the sump before being discharged to the City of San Jose sewer system under an industrial wastewater permit (SJ007B). The effluent quality was monitored jointly by the City of San Jose and by contractors for Autek (7,12). DHS also inspected the results of the contractors' sampling of wastewater effluent, which was analyzed for metals, fluorides, and pH. The sump was cleaned out periodically by Solvent Services (EPA ID # CAD059494310) (7). Documented waste manifests indicate that cleanings probably took place in 1982, 1986, and 1988.

Spent chemicals from the electroplating room tanks were stored in either 55-gallon drums in a bermed and sealed holding area in the electroplating room or in process tanks in the electroplating room. Disposal was handled by two methods: direct pumping of chemicals from the process tanks to a tanker truck and by loading the 55-gallon drums onto a disposal truck (7).

Approximately 10 to 15 drums of spent chemical wastes were generated on a monthly basis by the facility. The wastes were periodically hauled off site by Solvent Services to be reclaimed by recyclers or disposed of at either a Class I or Class III hazardous waste facility, depending on the type of material (2,9). Wastes were reportedly stored at the site for less than 90 days when Autek was in operation (10). The average amount of chemicals stored and used per month at the facility is presented in Appendix C (11).

Typical hazardous waste materials hauled off site in drums are listed below (2).

Sodium Hydroxide
Hydrogen Peroxide
Nitric Acid
Waste Corrosive Liquid (not otherwise specified)
Waste Hazardous Liquid (not otherwise specified)

An inventory of process solutions/wastes contained in process tanks in the electroplating room is presented in Appendix D (2).

2.2.2

Current Facility Processes and Waste Management

As of May 1, 1990, all site processes have been shut down. There are no current operations at the 109 Bonaventura location (8). The building is vacant and all interior machinery, structures, and facilities have been removed (7). The facility is awaiting certified clean closure by DHS (7,38).

3. APPARENT PROBLEM

As part of the facility closure activities in March 1990, Autek hired a contractor to excavate and remove the below-grade wastewater neutralization sump and associated equipment (20). Approximately 175 cubic feet of materials, including the sump and some underlying soil, was excavated and removed from the site (10,20).

During the sump removal, it was discovered that the feeder pipe leading to the sump was corroded. Soil was collected from beneath the sump and the feeder pipe and sampled for boron, copper, cyanide, fluoride, lead, and nickel (16,31). These were the only chemicals known to be formerly present in the sump effluent. A soil sample taken from the area beneath the feeder pipe at an approximate depth of 1 foot below the ground surface (bgs) revealed the presence of copper (360 mg/kg), cyanide (0.2 mg/kg), fluoride (77 mg/kg), lead (850 mg/kg), and nickel (460 mg/kg) (16,31). Copper (50 mg/kg), fluoride (18 mg/kg), lead (10 mg/kg), and nickel (130 mg/kg) were also found in composite soil samples taken from the soil underneath the sump at a depth of approximately 8 feet bgs (16,31). Tests for boron were conducted, and the sampling report indicated that concentrations of boron (if extant) were below 50 mg/kg, however it is not known whether or not that level was below detection limits.

DHS reviewed the sampling results and has indicated that the reported levels of heavy metals found in the soil are not of concern, and that the soil was considered non hazardous based on those results (37). DHS further stated that Autek was not required to excavate or remove any additional soil (38). The pit left by the excavation has since been filled to ground surface level with "100% virgin" soil under the observation of the San Jose Fire Department and a certified engineer (6,7,38).

During the 10-year period of Autek's operation, there was only one other documented incident of release. On March 18, 1987, an inspection log for the on-site hazardous waste loading and storage area indicated that a leak was detected from a drum containing spent copper sulphate solution (17). Closer inspection by the facility manager revealed that the drum liner supplied by Safety Specialists (EPA ID # CAD059494310) was defective and leaking, allowing corrosion of the metal drum. Autek requested that Safety Specialists pick-up the drummed waste and supply new drums with double liners. The contents of the leaking drum were transferred to a new drum with sorbents that had been used to collect spilled material within the bermed storage area. Inspections by DHS on March 19 and 20,

1987 revealed no further leaks, and the spilled waste was hauled off-site to a disposal facility on March 20, 1987 (17).

As of May 1, 1990 all site processes have been shut down, and all interior structures have been removed from the property (7,8). All chemicals, hazardous materials, and wastes have been reportedly removed from the facility. The closure activities were reportedly conducted by a contractor in all areas in which any chemicals or hazardous materials had been used or were known to have been stored or handled (6,7).

4. REGULATORY INVOLVEMENT

Autek is currently listed as a Permit Withdrawal Candidate and is designated as a State Regulated Facility in the May 1990 RCRA database. On November 10, 1980, Autek submitted a Part A Hazardous Waste Permit application to DHS, and on April 6, 1981 DHS granted Autek an Interim Status Document. Autek was never required to submit a Part B application. According to file information, the facility was inspected by DHS staff on several occasions from 1982 until 1989 (13). Each inspection yielded several administrative violations including: failure to specify the parameters for which each hazardous waste would be analyzed and the rationale for the selection of those parameters; the test methods for those parameters; failure to follow the inspection schedule; and failure to maintain adequate documents pertaining to training (14). These Class II violations were considered minor by DHS (14).

An Industrial Wastewater Discharge Permit was issued to Autek by the San Jose/Santa Clara Department of Water Pollution Control on August 3, 1982 for effluent discharged to the San Jose sewer system from the on-site wastewater neutralization sump. The permit was renewed every three years (12). During the 10-year period that Autek operated the wastewater sump, there were several violations of the wastewater discharge permit. The violations were for exceeding discharge levels described in the discharge permit (42,48).

On May 3, 1983, the Bay Area Air Quality Management District (BAAQ) issued three permits to Autek for normal operation of a vapor degreaser, a copper/tin and lead strip 40-gallon tank, and the solder reflow system 15-gallon hand-dip tank (15). There was one violation of the BAAQ permit issued to Autek for the operation of the vapor degreaser. The violation was of an administrative nature (41).

Autek has submitted their closure plan sample results and post-closure summary report to DHS. Pending a decision by DHS on certified clean closure of the site, Autek plans for the subsequent withdrawal of its ISD (7,38).

5. HRS FACTORS

In accordance with CERCLA and the Superfund Amendments Reauthorization Act of 1986 (SARA), a site's eligibility for inclusion on the NPL is assessed according to guidelines stipulated in the proposed revised Hazard Ranking System (rHRS) model. The model is designed to identify those sites which pose the highest risk to human health or the environment. The following is a summary of the most significant rHRS factors relative to this site.

5.1 Waste Type / Quantity

The former facility consisted of three main manufacturing areas: the machine shop, the main electroplating room, and the tip-plating room (see Figure 2) (2). The facility also housed a bermed chemical storage area for virgin chemicals. Hazardous wastes were stored in 55-gallon drums in a separate on-site bermed storage area and in process tanks located in the electroplating room. The capacity of the hazardous waste storage area in the electroplating room was approximately 30 drums. Currently no hazardous materials are stored at the site (7). The average amount of chemicals stored and used per month at the facility is presented in the table below (11).

Average amount of chemicals stored and used per month at Autek

CHEMICAL	AMOUNT STORED (Month)	AMOUNT USED (Month)
Hydrochloric (Nitric) Acid	5 gallons	1 quart
Nitric Acid	55 gallons	15 gallons
Sulfuric Acid	40 gallons	10 gallons
Boric Granular Acid	150 pounds	10 pounds
Sodium Hydroxide (Caustic Soda)	225 gallons	250 gallons
Copper	200 pounds	10 pounds
Lead	200 pounds	10 pounds
Nickel	10 pounds	1/8 pound
Acetone	5 gallons	2.5 gallons
Chlorinated Hydrocarbons (Freon)	55 gallons	20 gallons
Cyanides	10 pounds	5/6 pound
Peroxides	70 gallons	25 gallons

Spent chemicals from the electroplating room tanks were stored in either 55-gallon drums in a bermed and sealed holding area in the electroplating room or in process tanks in the electroplating room (7). Disposal was handled by two methods: direct pumping of chemicals from the process tanks to a tanker truck and by loading the 55-gallon drums onto a disposal truck (7). Approximately 10 to 15 drums of spent chemical wastes were generated on a monthly basis by the facility (2). The wastes were periodically hauled off site by Solvent Services (EPA ID # CAD059494310) to be reclaimed by recyclers or disposed of at either a Class I or Class III hazardous waste facility, depending on the type of material (2,9). Wastes were reportedly stored at the site for less than 90 days when Autek was in operation (10). Typical hazardous waste materials hauled off site in drums are listed in Section 2.2.1 (2). An inventory of process solutions/wastes contained in process tanks in the electroplating room is presented on the following page (2).

Circuit boards were coated by dipping the boards into chemicals contained in process tanks located in the electroplating room (7). The boards were then removed from the tanks and rinsed with water. The rinse water drained to the feeder pipe leading to an on-site, below-grade, wastewater neutralization sump (7). The wastewater neutralization system consisted of a three stage settling sump (capacity of 1,200 gallons) which employed an automatic pH monitor and control (9). The wastewater was neutralized in the sump before being discharged to the City of San Jose sewer system under an industrial wastewater permit (SJ007B) (7,12).

During the facility closure activities conducted in March 1990, the feeder pipe leading to the on-site wastewater neutralization sump was found to be corroded. A soil sample taken from under the feeder pipe from a depth of 1 foot revealed elevated levels of copper (360 mg/kg), cyanide (0.2 mg/kg), fluoride (77 mg/kg), lead (850 mg/kg), and nickel (460 mg/kg) in the soil underlying the feeder pipe (16,31). Background levels and detection limits for the sampling were not listed in the sampling reports submitted to Autek. Tests for boron were conducted and the sampling report indicated that concentrations of boron (if extant) were below 50 mg/kg, however it is not known whether or not that level was below detection limits. Autek representatives did not know how long the feeder pipe had been corroded nor how much of the underlying soil had been contaminated (7). However, during the facility closure activities, 175 cubic feet of materials, including the volume of the wastewater neutralization sump and an unknown amount of soil was reportedly removed from the area of the former sump (20). Based on this information, FIT estimates that approximately 15 cubic feet of soil were removed during the excavation activities (10,20). The excavation was overseen by the City of San Jose Fire Department (7). Based on a review of the soil sampling results, DHS did not request any further excavation or removal of soil (38).

Inventory of process solutions/wastes contained in process tanks in electroplating room.

COMMON NAME AND MAJOR CONSTITUENTS
Cleaner Conditioner. 1% Monoethanolamine, Trace Copper
Micro Etch: Sulfuric Acid 10%, Hydrogen Peroxide <4% Copper >1000 ppm
Pre-dip 404 Sodium bisulphate 2 lb./gal., Trace Copper
Accelerator 19: Fluoboric acid 5%, Copper 1000 ppm
Cuposit, electroless Copper. Formaldehyde 1%, Copper > 1000 ppm, Sodium Hydroxide 5%
Acid Cleaner 10% Sulfuric acid, Trace Copper
Micro-etch 1/4 lb./gal. Persulfate Copper 1000 ppm
10% Sulfuric acid, Trace Copper
Acid Copper Plating Solution. Sulfuric acid 10%, Copper 3 oz./gal.
10% Fluoboric acid, Copper 1000 ppm
Tin/lead Plating Solution. Fluoroboric acid 60 oz./gal., Stannous (Tin) 2.5 oz./gal., Lead 1.6 oz./gal.
Scrubber rinsewater. Lead / Copper
Cyclo-etch. Sulfuric acid 10%, Hydrogen Peroxide 25%, Copper 50.000 ppm
Film Stripper
Tin Immersion
Nitric acid Stripper. Nitric acid 30%, Copper > 1000 ppm, Lead > 1000 ppm
Hole Conditioner/Neutralizer. Monobutylether 20%, Monoethanolamine <10%
Sulfuric acid 90%
Ammonium Bifluoride 1 lb./gal.
Solder Neutralizer. Solder Hydroxide, Trace Copper / Lead
Nickel Plating Solution. Nickel Sulfate 10 oz./gal.
Acid Gold Plating Solution

The average wastewater flow to the wastewater neutralization sump was approximately 13,300 gallons per day with a maximum flow of 17,600 gallons per day (18). The wastestream from the electroplating room entering the sump had a pH range from 2 to 6 and was known to contain boron, copper, cyanide, fluoride, lead, and nickel (19).

5.2 Groundwater

The Autek site is located in the northern portion of the Santa Clara Valley which is part of a broad structural trough (San Francisco Bay) formed between the Coast Ranges on the east and the Santa Cruz Mountains to the west (21). The site is underlain by soils composed of organic clay, silty clay, and fine-grained sand, silt, and clay (21). The annual net precipitation in the area is 4.93 inches (26,27).

Groundwater in the vicinity of the site is present in a shallow unconfined and a deeper confined aquifer. These aquifers are comprised of well sorted, permeable sand and gravel units interbedded within fine grained sediments (21). Based on information obtained from subsurface investigation reports for the surrounding properties, the soils in the area consist of sandy silt and silty clay to a depth of 30 feet bgs, followed by 70 to 120 feet of silty sand mixed with sandy gravel deposits overlying a thick clay aquitard that separates the upper aquifer from the lower aquifer (21,23,24). Based on available well log information the minimum depth to the lower aquifer in the area of the site is estimated to be approximately 250 feet (39,40). The local groundwater table fluctuates between depths of 6 to 28 feet bgs (21). The direction of shallow groundwater flow in the vicinity of the site is highly variable. The general groundwater flow is in a northerly direction except where influenced by natural drainage channels (21). Seasonal fluctuations in surface water flow along Coyote Creek and Guadalupe River could also be responsible for fluctuations in the groundwater elevations (21). Water from the shallow aquifer is not used for any beneficial purposes (24).

Several wells screened in the deeper potable aquifer in the Santa Clara Valley groundwater basin have been found to be contaminated with chemicals (24). These wells are points of demonstrated interconnection for migration of hazardous substances from the upper to the lower aquifers (24,46,47). Another area of demonstrated aquifer interconnection in the Santa Clara Valley is the forebay boundary where the upper aquifer recharges the lower potable aquifer. The Autek site is located more than 2 miles from the boundary of the forebay recharge zone and from any municipal wells of demonstrated aquifer interconnection (1,36,46,47).

The closest known wells to the site are the San Jose Water Company's Breeding Avenue Station wells, #1 and #2 (25). These wells draw water from the lower aquifer

Exemption
6- Privacy

Exemption 6: Privacy

The water from these wells is blended with other wells which constitute the San Jose Water Company's supply system for the Cambrian Zone (25). The wells are part of San Jose Water Company's integrated supply system which serves a population of approximately 700,000 people (25).

There are a total of 20 known municipal wells located within a 4-mile radius of the site (1,36,39,40,43,44,45). Of these, 13 are operated by the City of Santa Clara and 7 are operated by the San Jose Water Company (36,39,40). The total population served by the 20 wells within the 4-mile radius is estimated to be approximately 790,000 people (25,28).

There has been no groundwater sampling conducted at the site (7). Although contaminants have been detected in the subsurface soils at a depth of 1 foot bgs, the likelihood of release to the deep potable aquifer appears to be low because of the presence of a thick clay layer separating the upper aquifer system from the lower potable aquifer.

5.3 Surface Water

The Guadalupe River is part of a major drainage area in Santa Clara and is located 0.5 miles down slope from Autek (22). The river flow rate during the rainy seasons is 1,700 cubic feet per second (24). The Guadalupe River is not used for drinking water or irrigation purposes (22). Although RWQCB has designated this surface water as an alternate drinking source, DHS has not permitted the river as a drinking water source because it does not have enough flow for hookup (22). However, the river is used for industrial purposes (22). The river is not accessible to boats, and the Santa Clara County Public Health Department has posted "No Fishing" signs along the river, however fishing reportedly does occur. There is no harvest information available for the Guadalupe River. According to available information, the river is usually too shallow for swimming (22). Autek is located in a 100-year flood plain (49). The two year, 24-hour rainfall for this area is approximately 2.25 inches (29).

Approximately 10.5 miles downstream from the probable point of hazardous substance entry from the former Autek facility, the Guadalupe River is contiguous with the Alviso Slough which flows into the southern most portion of the San Francisco Bay (1). In this area of the bay there is no commercial fishing for human consumption (33). The commercial fishing industry consists of bay shrimp catches which are primarily used for bait (32,33). However, the California Department of Fish and Game has verbal reports that bay shrimp are bought for human consumption (32). Shark and striped bass are also caught in the south bay; however, there is no information available on the annual harvest of shark or striped bass caught or consumed (33).

In the vicinity of Alviso Slough, three areas have been designated as National Wildlife Refuges (34). One refuge area is bordered by Alviso Slough and Coyote Creek. A second is surrounded by Alviso Slough, Coyote Creek, and Guadalupe Slough. The third area is bordered by Coyote Creek, Mowry Slough, and the San Francisco Bay. The salt-marsh harvest mouse (Reithrodontomys raviventris), California clapper rail (Rallus longirostris obsoletus), and the California brown pelican (Pelecanus occidentalis californicus) are federally listed endangered species which reside around these refuge areas (35).

Because of documented surface soil contamination, a potential for a release via the surface water pathway exists. However, beneficial uses of surface water in the area appear to be limited, and all residual soil contamination, if present, has apparently been covered with fresh soil.

5.4 Air

The former Autek facility is located in an industrial/commercial area and currently consists of a 17,000-square foot enclosed building situated on a mostly paved 37,000-square foot property parcel (2). Unpaved areas of the property are mostly covered with ivy interspersed with small bushes and trees (7). As indicated below, approximately 126,000 people reside within 4 miles of the former Autek facility (30):

Distance	Population
0 - 1/4 mile	132
1/4 - 1/2 mile	396
1/2 - 1 mile	958
1 - 2 miles	4,989
2 - 3 miles	27,199
3 - 4 miles	92,387

There is no evidence to indicate that a release to the air occurred at the site while Autek operated its facilities. Because of the possibility of residual contaminated surface soils, there is a potential for a release of hazardous substances via the air route. However, the quantity of uncontained hazardous substances appears to be small for this pathway. FIT estimates

that approximately 15 cubic feet of contaminated soil have been removed from the area of the former sump, and the area of excavation has been covered with fresh soil.

5.5 On-Site

Approximately 1,500 people live within a 1-mile radius of the former Autek facility (30). There are no barriers surrounding the site (7). Approximately 15 cubic feet of soil is estimated to have been removed during the excavation of the sump and the area of excavation has been filled to ground surface level with "100% virgin" soil (6,7,10,20). Soil samples collected after the sump removal indicate that concentrations of copper, cyanide, fluoride, lead, and nickel found were below the state Total Threshold Limit Concentrations for those substances (20). Based on a review of the soil analysis, DHS did not require additional soil removal because the soil was considered non-hazardous (37,38). No further sampling has been conducted.

The likelihood of on-site exposure appears to be low at this time because any residual contaminated soil apparently has been covered by fresh soil.

6. SUMMARY OF FIT INVESTIGATIVE ACTIVITIES

On May 23, 1990 FIT conducted a site interview and reconnaissance visit. The interview was conducted at the Autek facility located at 3200 Zanker Road with Mr. Jim Mockler, Accounting Manager at Autek Systems Corporation and Mr. Bob Sullivan, Environmental Manager, representing Autek's clean-up consultants. Following the interview, FIT was escorted to the site by Mr. Mockler and Mr. Sullivan where FIT proceeded to confirm current on-site conditions and make photographic documentation of its observations. A complete description of the interview and on-site reconnaissance is provided in the Site Reconnaissance and Observations Report (7).

7. REMOVAL CONSIDERATIONS

Emergency removal does not appear to be necessary at the site. All known uncontained hazardous substances have been either removed or are apparently covered by clean soil. DHS has indicated that the levels of heavy metals found in the soil samples were not of concern because the soil is considered non-hazardous based on the levels found (37). DHS further stated that Autek does not need to excavate any more soil (38).

8. SUMMARY OF SIGNIFICANT HRS FACTORS

Autek leased the property at 109 Bonaventura Dr. in San Jose, California from owners Roger and Wendy Mairose from late 1979 until May 1, 1990. The former Autek site is located in a commercial area in northwestern San Jose, approximately 0.5 miles east of the Guadalupe River. From 1980 to 1990, Autek operated a printed circuit board manufacturing facility which was classified as a small quantity waste generator under the Resource Conservation and Recovery Act (RCRA). The size of the property is approximately 37,000 square feet of which the former on-site manufacturing facilities covered approximately 17,000 square feet. There were no substances treated on site except for wastewater which was neutralized in a below-grade sump before being discharged under permit to the City of San Jose's sewer system.

During the period of operation, virgin chemicals were stored at Autek in the chemical storage area which was bermed and sealed. Spent chemicals were stored in 55-gallon drums in a bermed and sealed holding area and in process tanks in the electroplating room. The capacity of the hazardous waste storage area in the electroplating room for 55-gallon drums was estimated to be approximately 30 drums. Disposal was handled by two methods: direct pumping of chemicals from the process tanks to the tank truck and by loading the 55-gallon drums onto a disposal truck. Wastes were periodically hauled off site for recycling or disposal by contractors.

The wastewater produced in the electroplating room drained to a feeder pipe which led to a below-grade wastewater neutralization sump. The wastewater was neutralized in the sump and discharged into the San Jose city sewer under permit. The City of San Jose conducted monthly sampling of the wastewater effluent, and Autek also hired an independent laboratory to periodically sample the effluent. The wastewater effluent was routinely analyzed for metals, fluorides, and pH. The sump was cleaned out periodically by Solvent Services. Documented waste manifests indicate that cleanings probably took place in 1982, 1986, and 1988. The sump had a capacity of 1,200 gallons.

As part of the facility closure activities in March 1990, contractors to Autek excavated the below-grade wastewater neutralization sump and associated equipment. Approximately 175 cubic feet of materials, including the sump and some underlying soil, was excavated and removed from the site.

During the sump removal, it was discovered that the feeder pipe leading to the sump was corroded. Soil was collected from beneath the sump and the feeder pipe and sampled for boron, copper, cyanide, fluoride, lead, and nickel. These were the only chemicals known to be formerly present in the sump effluent. Soil samples taken from the area beneath the

feeder pipe at an approximate depth of 1 foot bgs revealed the presence of copper (360 mg/kg), cyanide (0.2 mg/kg), fluoride (77 mg/kg), lead (850 mg/kg), and nickel (460 mg/kg). Copper (50 mg/kg), fluoride (18 mg/kg), lead (10 mg/kg), and nickel (130 mg/kg) were also found in composite soil samples taken from the soil underneath the sump at a depth of approximately 8 feet bgs. The California Department of Health Services (DHS) reviewed the sampling results and has indicated that the reported levels of heavy metals found in the soil are not of concern, and that the soil was considered non-hazardous based on those results. DHS further stated that Autek was not required to excavate or remove any more soil. The pit left by the excavation has since been filled to ground surface level with "100% virgin" soil under the observation of the San Jose Fire Department and a certified engineer.

Several municipal wells operated by the City of Santa Clara and the San Jose Water Company are located within 4 miles of the site. Santa Clara municipal wells are part of an integrated distribution system. The San Jose Water Company wells are part of a partially blended system. More than 790,000 residents are served by groundwater wells located within 4 miles of the site. Potable water is pumped only from the lower aquifer which begins approximately 200 feet bgs. There is no evidence that the upper and lower aquifers are hydraulically connected within 2 miles of the site.

There has been no groundwater sampling conducted at the site. Although contaminants have been detected in the subsurface soils at a depth of 1 foot bgs, the likelihood of release to the deep aquifer appears to be low because of the presence of a thick clay layer separating the upper aquifer system with the lower potable aquifer.

The Guadalupe River is located approximately 0.5 miles downslope from the site and is part of a major drainage area in the Santa Clara Valley. The Guadalupe River is not used for drinking water purposes. However, limited sport fishing reportedly does occur in the river. Approximately 10.5 miles downstream from the probable point of hazardous substance entry from the former Autek facility, the Guadalupe River is contiguous with the Alviso Slough which flows into the southernmost portion of the San Francisco Bay. In the vicinity of the Alviso Slough, three areas have been designated as National Wildlife Refuges. These refuges are the habitat for three federally listed endangered species.

Because of documented surface soil contamination a potential for a release via the surface water pathway exists. However, beneficial uses of surface water in the area appear to be limited and all residual soil contamination, if present, apparently has been covered with fresh soil.

Although various metals have been detected in the on-site soils, the likelihood of a release via the air and on-site exposure routes is low because any residual soil contamination apparently has been covered with fresh soil.

The significant HRS factors associated with the site are as follows:

- low likelihood for a release of hazardous substances to the lower potable aquifer;
- limited surface water uses;
- low likelihood of release via the air; and
- low likelihood for an on-site exposure incident.

9. EPA RECOMMENDATION

	<u>Initial</u>	<u>Date</u>
No Further Remedial Action Planned	_____	_____
Medium Priority SSI	_____	_____
High Priority SSI	_____	_____
Defer to another authority	<u>RL</u>	<u>8/28/90</u>

Notes: (fcha)

10. References

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APPENDIX A

Contact Logs

and

Contact Reports

P.A./S.I. Contact Log

Facility Name: Autek Systems Corporation
Facility ID: CAT000623835

Name	Affiliation	Phone #	Date	Information
* Greg Eager	Department of Health Services	(415) 540-2158	10/10/89	See Contact Report
* David Thomas	California Department of Fish and Game	(415) 688-6340	10/17/89	See Contact Report
* Paul Reiley	California Department of Fish and Game	(415) 688-6340	11/13/89	See Contact Report
* Bob Kenton	City of San Jose Water Department	(408) 277-4218	11/13/89	See Contact Report
* Mike Dulude	City of Santa Clara Water Department	(408) 984-3183	11/13/89	See Contact Report
Dennis Ma	City of Santa Clara Public Works Department	(408) 984-3183	11/14/89	See Contact Report
Doris Cruz	Department of Health Services	(415) 540-2122	5/2/90	Called to verify existence of file on Autek. Referred to Julie Proust (Project Manager for Autek)
Julie Poust	Department of Health Services	540-3894	5/2/90	No action against Autek. Site closed 4/9/90. Sampling done around neutralization well. Possible concerns are lead, acids-metals group, tank leakage. Referred me to

* Past Contact Report Used to Evaluate Current Site

P.A./S.I. Contact Log (cont.)

Facility Name: Autek Systems Corporation
Facility ID: CAT000623835

Name	Affiliation	Phone #	Date	Information
				Bob Sullivan of Cummings Environmental for information on closure. (408) 974-7400.
Jim Mockler	Autek Systems Corporation	(408) 435-2800 ext. 310	5/3/90	See Contact Report.
Roger Mairose	Land owner of lot at Bonaventura location	Exemption 6: Privacy	5/8/90	See Contact Report
Rueben Hernandez	San Jose Water Company	(408) 279-7900	5/25/90	See Contact Report
Will Taylor	Bay Area Air Quality Management District	(415) 771-6000 Extension 170	7/10/90	See Contact Report
Jim Mockler	Autek Systems Corporation	(408) 435-2800 Extension 310	7/11/90	See Contact Report
Bruce Frisbee	City of San Jose Department of Water Pollution Control	(408) 945-5300	7/11/90	See Contact Report

* Past Contact Report Used to Evaluate Current Site

SITE RECONNAISSANCE INTERVIEW AND OBSERVATIONS REPORT

ICF Technology, Inc.
Field Investigation Team (FIT)
160 Spear Street, Suite 1380
San Francisco, CA 94105
(415) 957-0110

OBSERVATIONS MADE BY: Gary Jensen
Adam Ng
Yoon Toh

DATE: May 23, 1990

FACILITY REPRESENTATIVE(S) and TITLE(S):

Jim Mockler, Accounting Manager, Autek Systems Corporation
Bob Sullivan, Environmental Manager, Cummings Environmental

SITE NAME: Autek Systems Corporation

EPA ID#: CAT000623835

The following information was obtained during the interview:

Autek leased the property at 109 Bonaventura Dr., San Jose, CA. from property owners Roger and Wendy Mairose from late 1979 until May 1, 1990. The former Autek Systems Corporation site is located in a commercial area in northwestern San Jose, approximately 0.5 miles east of the Guadalupe River. The size of the property is approximately 37,000 square feet and the former on-site facilities covered approximately 17,000 square feet. The 109 Bonaventura location is bordered on the north, west and south by industrial areas. Fifty feet to the east it is bordered by a stockyard with cattle. Autek closed down the site facilities because costs of operation there were too high. Printed circuit operations were not moved to a new location.

Autek was issued an Interim Status Document (ISD) on April 6, 1981 to operate as a small quantity waste generator at the site. From 1980 to 1990, Autek operated a printed circuit facility which manufactured printed circuits in an electroplating room. Circuit boards were coated with chemicals contained in the process tanks in the electroplating room by dipping the boards into the tanks. The boards were removed from the tanks, the tanks were then closed and the boards were rinsed with water. The rinse water from the boards drained to the electroplating room floor and from there the rinse water drained to the feeder pipe which led to the wastewater neutralization sump. Wastewater was neutralized in the sump

(acidic wastes were pH neutralized with sodium hydroxide) before being discharged to the sewer system in the city of San Jose.

There were no substances treated on site except for wastewater which was neutralized in an underground sump before being discharged to the city of San Jose's sewer system. The sump was permitted by the city of San Jose.

Virgin chemicals were stored in the chemical storage area which was bermed and sealed. Processed chemicals were stored in either 55-gallon drums in a bermed and sealed holding area in the electroplating room or in process tanks in the electroplating room. Disposal was handled by one of two methods; direct pumping of chemical from the process tanks to the tank truck and by loading the 55-gallon drums onto a disposal truck. The capacity of the storage area for 55-gallon drums was estimated to be approximately thirty 55-gallon drums.

The wastewater produced in the electroplating room drained to a feeder pipe which led to an underground sump. The city of San Jose municipality staff conducted monthly inspections of the water, and Autek hired Hull labs to do sampling. In addition, Autek's shop manager conducted self-sampling of the effluent every six months. The California Department of Health Services (DHS) did not conduct sampling, but they did inspect Autek's sampling. The wastewater was analyzed for metals, fluorides, and pH. The sump was cleaned out periodically by Solvent Services; documented waste haulings indicate that cleanings probably took place in 1982, 1986, and 1988. The sump had a capacity of 1,200 gallons. The total water usage for the facilities at the 109 Bonaventura location for each month from December 19, 1988 through December 20, 1989 showed the daily usage to vary from approximately 3,400 gallons per day to 7,400 gallons per day. The facility used approximately 10,000 gallons per day in the earlier years of operation. Autek received its water from the city of San Jose; there were no known wells on the 109 Bonaventura property.

There may possibly have been spills inside the facility from everyday work, but there were no documented releases at the site during the period of facility operation. On October 17, 1989, some chemicals were spilled onto the wet floor in the electroplating room, but these were contained within the wastewater sump. The feeder pipe to the sump was found to be corroded upon removal of the sump, but it is unknown as to how long the pipe had been corroded or how much wastewater was released. The feeder pipe was located approximately 1.5 feet bgs.

Remediation Services conducted sampling for Autek during closure activities. Soil samples, water samples, and wipe samples were taken around the sump area and throughout the electroplating and storage areas within the facility. Background samples were also taken. However, there were no groundwater samples taken. A registered engineer and a representative from the San Jose Fire Department were present during sampling. When the sump was removed, a fence was erected, and a 24-hour guard was posted. Although soil was removed from underneath the sump, it is not certain how much soil was removed. No sampling was done after the removal of the soil. "Virgin" soil was placed in the pit left by excavation of the sump because the soil which was removed did not meet "compaction"

requirements of the San Jose Fire department. Autek representatives claimed that the soil was otherwise clean enough to be put back in the area of excavation.

The set of soil sample results contained in the April 9, 1990 report to Julie Proust of DHS was not a secondary set of samples, but was further analysis of some of the first samples. The hydrogeology and geology report which Cummings sent to Gary Jensen of FIT at ICF Technology, Inc. was prepared from information obtained from the United States Geological Survey and local agencies.

Currently, Autek has submitted to DHS their closure plan sample results, and post-closure summary and is awaiting to be considered "certified closed" by DHS and the for the subsequent withdrawal of its ISD (7,39).

The following observations were made during the site tour.

The former Autek facilities at 109 Bonaventura Drive in San Jose, California had been completely disassembled and removed. No internal structures remained. There were new business tenants moving into a refurnished section of the building (the area indicated as the temporary storage area). Elsewhere the building was unoccupied. The wastewater neutralization sump had been removed, and new soil had filled in the pit left by the excavated sump. Cement post anchors with pipe inserts remained from the fence which had been erected in order to secure the sump area during excavation and sampling. The unpaved areas of the site were covered with ivy interspersed with bushes and trees.

CONTACT REPORT

Agency/Affiliation: Department of Health Services (DHS)

Department/Region: Public Water Supply Branch

Address/City: 2151 Berkeley Way

County/State/Zip: Alameda, CA 94704

CONTACT	TITLE	PHONE
<u>Greg Eager</u>	<u>Sanitary Engineer</u>	<u>(415) 540-2158</u>

ICF Person Making Contact: Janine Young Date: October 10, 1989

Subject: Guadalupe River

Site Name: Autek Systems Corporation
(from Monsanto Chemical Company) EPA ID#: CAT000623835
EPA ID: CAD009156290

The Guadalupe River is a major drainage area in Santa Clara. The California Regional Water Quality Control Board has designated the Guadalupe River as a source that can be used for drinking water purposes. However, DHS has not permitted the river because there is not enough flow. The Guadalupe is a seasonal river.

Guadalupe is used for industrial purposes. IBM is discharging treated groundwater into Canoas Creek which flows directly into the Guadalupe River. Moreover, a contractor for Cal Trans is using the Guadalupe River for construction purposes. Mr. Eager does not believe that the river is used for irrigation purposes.

Although the county has posted "do not eat fish" warning signs, fishing does occur. Steelhead fish are caught in the waters. The river is not accessible to boats but trails and pathways will lead you to the river. Swimming does not occur because the water is too shallow.

CONTACT REPORT

Agency/Affiliation: California Department of Fish and Game

Department/Region: _____

Address/City: 411 Burgess Drive, Menlo Park

County/State/Zip: San Mateo, CA 94025

CONTACT	TITLE	PHONE
<u>David Thomas</u>	<u>Marine Biologist</u>	<u>(415) 688-6340</u>

ICF Person Making Contact: Janine Young Date: October 17, 1989

Subject: Commercial fishing in the South Bay

Site Name: Autek Systems Corporation
(from Monsanto Chemical Company ..
EPA ID: CAD009156290) EPA ID#: CAT000623835

Only commercial fishing in the Bay around Santa Clara County is for bay shrimp. Bay shrimp is used for bait.

A smaller industry in which fish is caught for human consumption is the shark and stripe bass industry. Unfortunately, there is no information available regarding the amount of fish caught annually.

For more information about the bay shrimp, call Paul Reiley of Region 4.

CONTACT REPORT

Agency/Affiliation: City of Santa Clara

Department/Region: Water Department

Address/City: 1500 Warburton Avenue, Santa Clara

County/State/Zip: Santa Clara County, CA 95050

CONTACT	TITLE	PHONE
<u>Mike Dulude</u>	<u>Engineering Aide</u>	<u>(408) 984-3183</u>

ICF Person Making Contact: Yoon K. Toh Date: November 13, 1989

Subject: Water Supply to the City of Santa Clara

Site Name: Autek Systems Corporation
(from R&B Commerce Park
EPA ID: CAD981677461)

EPA ID#: CAT000623835

The City of Santa Clara obtains its drinking water blended from three sources:

1. 28 Active Municipal water wells
2. Hetch-Hetchy Project
3. Santa Clara Valley Water District

There are a total of 33 wells in the City of Santa Clara. Wells #31 and 32 have not been drilled. Well #33 has been drilled but is not active yet. The active wells are: 2-02, 3, 4, 5-02, 6, 7, 8, 9-02, 10, 11, 12, 13-02, 14, 15, 16-02, 19, 20-02, 21, 22-02, 22-03, 24, 25, 26, 28, 29, 30.

The population of the City of Santa Clara is approximately 90,900.

CONTACT REPORT

Agency/Affiliation: City of San Jose

Department/Region: Water Department

Address/City: 3025 Tuers Road, San Jose

County/State/Zip: Santa Clara County, CA 95121

CONTACT	TITLE	PHONE
<u>Bob Kenton</u>	<u>City Civil Engineer</u>	<u>(408) 277-4218</u>

ICF Person Making Contact: Yoon K. Toh Date: November 13, 1989

Subject: Water Supply to the City of San Jose

Site Name: Autek Systems Corporation
(from R&B Commerce Park .. EPA ID#: CAT000623835
EPA ID#: CAD981677461

The City of San Jose obtains its drinking water from four sources:

1. San Jose Water Company wells
2. Great Oaks Company
3. Santa Clara Valley District (SCVWD)
4. Municipal system of 14 wells.

The City of San Jose has a population of approximately 732,000.

CONTACT REPORT

Agency/Affiliation: California Department of Fish and Game

Department/Region: Marine Resources Division

Address/City: 411 Burgess Drive, Menlo Park

County/State/Zip: San Mateo, CA 94025

CONTACT	TITLE	PHONE
<u>Paul Reiley</u>	<u>Marine Biologist</u>	<u>(415) 688-6340</u>

ICF Person Making Contact: Joe Lukas Date: November 13, 1989

Subject: Bay Shrimp

Site Name: Autek Systems Corporation
(from Monsanto Chemical Company ..
EPA ID: CAD009156290) EPA ID#: CAT000623835

1. Bay shrimp is used solely for bait (there are verbal reports that numerous people are purchasing the bait shrimp for food).
2. Three types of shrimp are caught in the south bay:
 - a) Bay shrimp (up to 90% are caught in this area)
 - b) Korean shrimp (found in brackish water around the Alviso Slough area up to 50% are caught in the south bay)
 - c) Blacktail.
3. Bay shrimp are caught by operators in the following areas:
 - a) Alviso Slough
 - b) Redwood Creek - south of San Mateo Bridge
 - c) Sausalito
 - d) Carquinez Straits

CONTACT REPORT

Agency/Affiliation: City of Santa Clara Public Works Department

Department/Region: _____

Address/City: 1500 Warburton Avenue, Santa Clara

County/State/Zip: Santa Clara, CA. 95050

CONTACT	TITLE	PHONE
<u>Dennis Ma</u>	<u>Senior Water Engineer</u>	<u>(408) 984-3183</u>

ICF Person Making Contact: Yoon Toh Date: November 14, 1989

Subject: Status of Contaminated Wells in Santa Clara

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

Mr. Dennis Ma, Senior Water Engineer of the Public Works Department of the City of Santa Clara states that:

There are currently 28 active wells in the City of Santa Clara. Well SC1-02, one of the 28 municipal wells is currently on standby and is not in service but could be. No containment has been detected in this well. Contaminants were detected in two municipal wells in 1984 but the concentration was below the State Department of Health Services Water Quality Standard for drinking water criteria. The drinking water standard is based on the possibility of increasing the chance of an additional person in a million of having cancer.

WELL	CONTAMINANT DETECTED	STATUS
SC-24	Freon-113 Cis 1,2-DCE	Active
SC 20-02	1,1,1-TCA	Active

These wells were never closed since the concentration of contaminants in the well did not exceed criteria for drinking water limit. Water from municipal wells in the city of Santa Clara are blended with water imported from the Hetch-Hetchy system and Santa Clara Valley Water District and serves the population of Santa Clara of approximately 90,000.

CONTACT REPORT

Agency/Affiliation: Autek Systems Corporation

Department/Region: _____

Address/City: 2302 Zanker Road, San Jose

County/State/Zip: Santa Clara, CA 95131

CONTACT	TITLE	PHONE
<u>Jim Mockler</u>	<u>Financial Accountant</u>	<u>(408) 435-2800 Ext. 310</u>

ICF Person Making Contact: Gary A. Jensen Date: May 3, 1990

Subject: Letter of Introduction, Closure of Autek

Site Name: Autek Systems Corporation EPA ID#: CAT000623835
109 Bonaventura Road

The 109 Bonaventura site is owned by Roger and Wendy Mairose. Autek leased the property for approximately 10 years. Autek closed its machine shop in January. Autek paid rent through April 1, 1990. Owners reoccupied on half of the premises in mid-March 1990. In 1989, Autek hired Bob Sullivan of Cummings Environmental to take care of closure. Soil sampling was done by Remediation Services, Inc. in March of 1990 (exact date not known).

CONTACT REPORT

Agency/Affiliation: MAI Industries, Inc.

Department/Region: _____

Address/City: 105 Bonaventura Drive

County/State/Zip: San Jose, CA 94134

CONTACT	TITLE	PHONE
<u>Roger Mairose</u>	<u>Property Owner</u>	<u>Exemption 6: Privacy</u>

ICF Person Making Contact: Gary Jensen Date: May 8, 1990

Subject: Status of 109 Bonaventura Site

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

Mr. Roger Mairose who is co-owner, with Wendy Mairose, of the 109 Bonaventura Drive property, stated that Autek left the site about 2 weeks ago, that nobody occupies the site now, that nobody occupied the site before Autek, and that there are no hazardous materials or wastes at the location now.

CONTACT REPORT

Agency/Affiliation: San Jose Water Company

Department/Region: _____

Address/City: 1221 South Bascom Road

County/State/Zip: San Jose, CA 95128

CONTACT	TITLE	PHONE
<u>Reuben Hernandez</u>	<u>Operations Supervisor</u>	<u>(408) 279-7900</u>

ICF Person Making Contact: Gary A. Jensen Date: May 25, 1990

Subject: Breeding Avenue Station Wells

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

There are two wells at the Breeding Avenue Station, #1 and #2. Both wells were drilled in 1967 to a depth of 740 feet. These wells are used infrequently, but when used are blended with other wells which constitute the Cambrian Zone (the name of one of San Jose's water usage areas). Water from the Cambrian Zone is blended with other water sources in San Jose, extending the total possible population served by the well to approximately 700,000.

The pumping depths of the wells (taken from July 1988) were: #1 - 134 feet below ground surface; #2 - 147 feet below ground surface.

CONTACT REPORT

Agency/Affiliation: Bay Area Air Quality Management District

Department/Region: _____

Address/City: 939 Ellis Street, San Francisco

County/State/Zip: San Francisco, CA 94109

CONTACT	TITLE	PHONE
<u>Will Taylor</u>	<u>Engineer</u>	<u>711-6000, ext. 170</u>

ICF Person Making Contact: Gary Jensen Date: July 10, 1990

Subject: Violations of BAAQMD Permits 29294-1, 29294-2, and 29294-3

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

Autek received one violation of Permit 29294-1 on September 22, 1990. The permit is an operators permit for a "Vapor Degreaser, Baron-Blakeslee MLR-120." The violation is listed as a violation of Regulation 1, Rule 2, Section 302 which states (in summary) that before any person uses or operates any equipment that person must have a permit to operate.

CONTACT REPORT

Agency/Affiliation: Autek Systems Corporation

Department/Region: _____

Address/City: 2302 Zanker Road, San Jose

County/State/Zip: Santa Clara, CA 95131

CONTACT	TITLE	PHONE
<u>Jim Mockler</u>	<u>Financial Accountant</u>	<u>(408) 435-2800, ext. 310</u>

ICF Person Making Contact: Gary Jensen Date: July 11, 1990

Subject: Violations of Industrial Wastewater Discharge Permit
SJ-0073

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

Mr. Mockler stated that there were several violations of Auttek's permit (#SJ-007B) for the wastewater neutralization sump during its years of operation. Incidences cited by Mr. Mockler were: a discharge to the San Jose sewer system of water whose pH exceeded the pH limit (pH too high) which was caused by an out of calibration pH monitor; a discharge to the sewer system of water whose nickel level was too high; and levels of several metals contained in the effluent from the sump exceeded the discharge limits immediately after the Loma Prieta Earthquake on October 17, 1989. There were other incidents where discharge limits were exceeded which are documented and available for review at both Auttek and the San Jose Department of Water Pollution Control. Mr. Mockler, at my request contacted the San Jose Department of Water Pollution Control and gave permission for me to review and file information that they might have concerning Auttek's permit.

CONTACT REPORT

Agency/Affiliation: City of San Jose Department of Water Pollution Control

Department/Region: _____

Address/City: 700 Los Esteros Road, San Jose

County/State/Zip: Santa Clara, CA 95134

CONTACT	TITLE	PHONE
<u>Bruce Frisbee</u>	_____	<u>(408) 945-5300</u>

ICF Person Making Contact: Gary Jensen Date: July 11, 1990

Subject: File Review of Permit SJ-007B

Site Name: Autek Systems Corporation EPA ID#: CAT000623835

Mr. Frisbee would not allow me to have access to the file information on Permit No. SJ-007B, nor would he answer any questions concerning the permit or file information. He stated that I would have to have the CEO of Auttek Systems Corporation write a letter and send it to him before he would allow me to have access to any information concerning Auttek's permit.

I explained to Mr. Frisbee what the information was for and I verbally identified myself as well as physically identified myself by sending him a copy of my letter of introduction. I also explained that as a representative of the EPA, information could not be kept from me, but Mr. Frisbee still would not allow me access to the files.

I had Jim Mockler of Auttek Systems Corporation attempt to contact Mr. Frisbee to tell him that I had Auttek's permission to review the information, however, Mr. Frisbee still refused me access without a letter from Auttek's CEO.

APPENDIX B

Photographic Documentation

May 23, 1900

**Photographer
Yoon Toh
ICF Technology, Inc.**

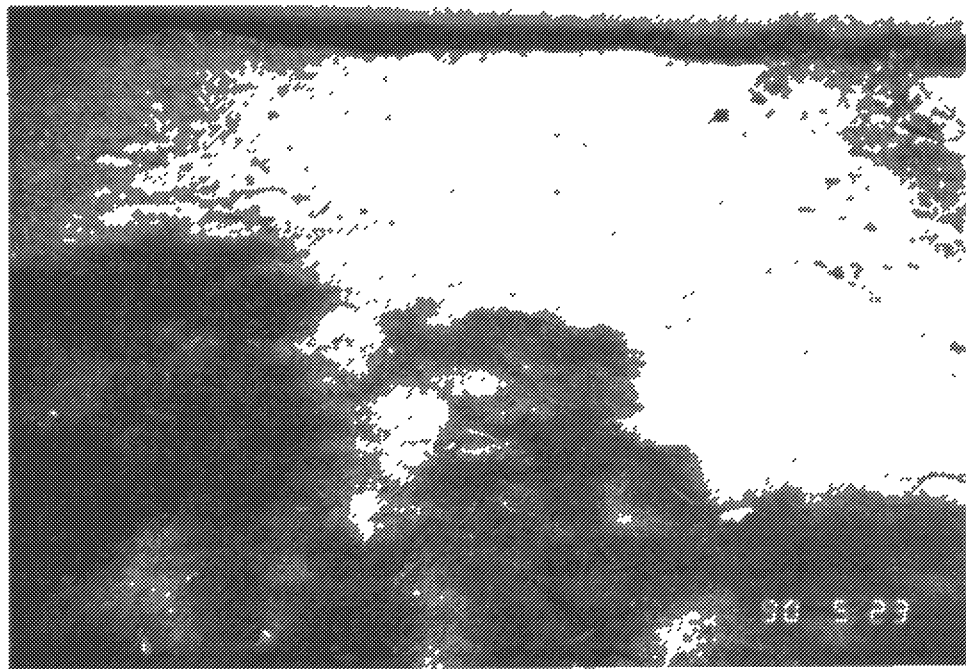


Photo 1: Former underground wastewater neutralization sump area. Pictured is the new soil which was used to fill the pit left by sump excavation. View is facing west.

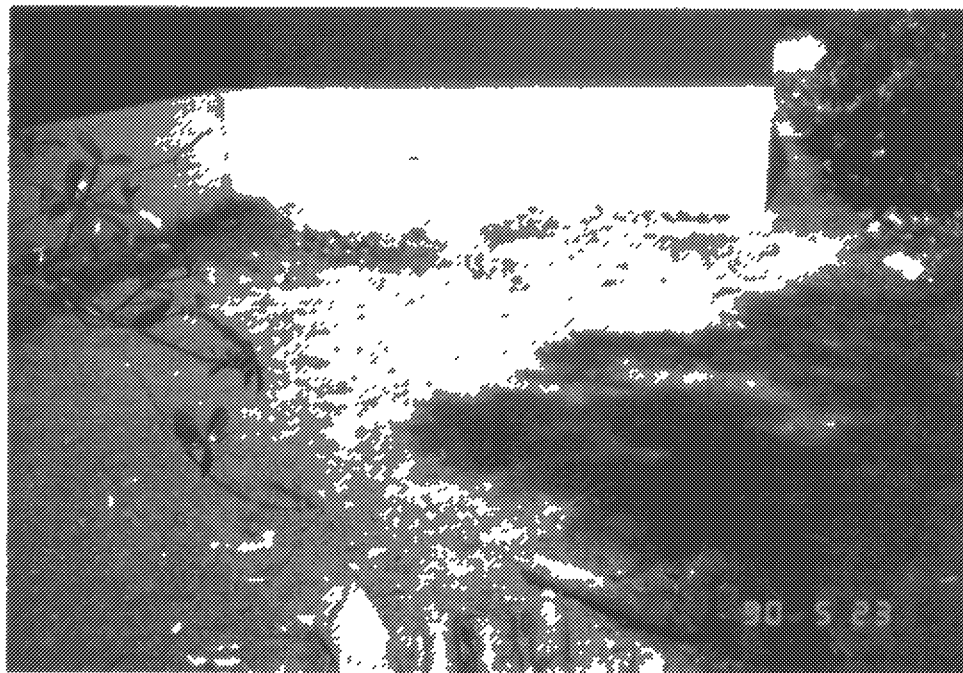


Photo 2: Former underground wastewater neutralization sump area. View facing north.

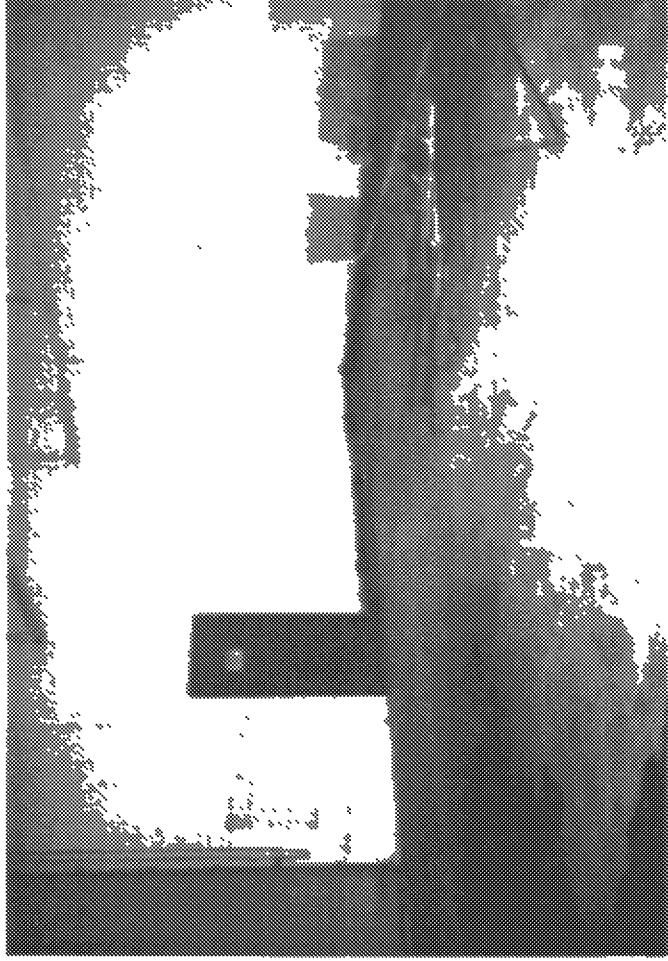


Photo 3: Former location of plating room at 109 Beneventura facility.
View faces northeast.

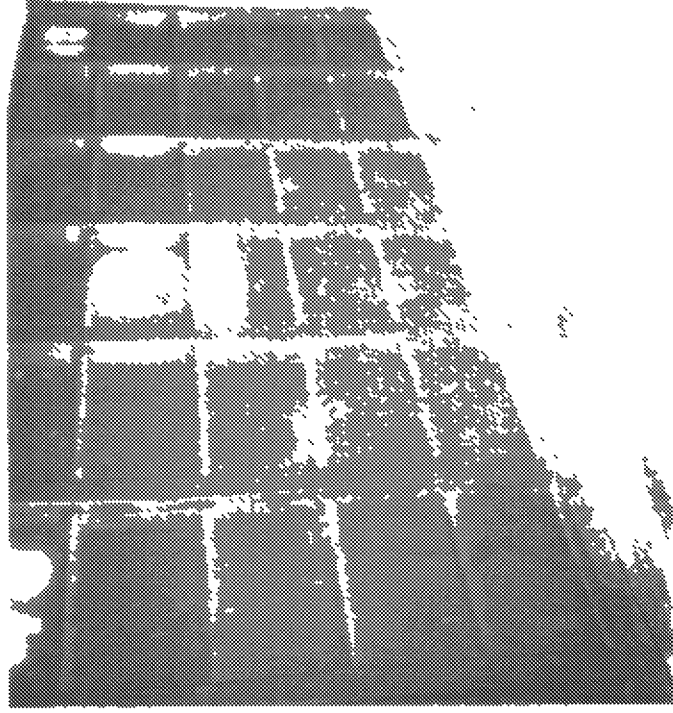


Photo 4: Former location of chemical storage area. Dumpster pictured
currently covers about half of the former area. View facing
northwest.

Photo 6: Example of wipe sample area (50 cm x 50 cm) from former lip plating room. View facing east.

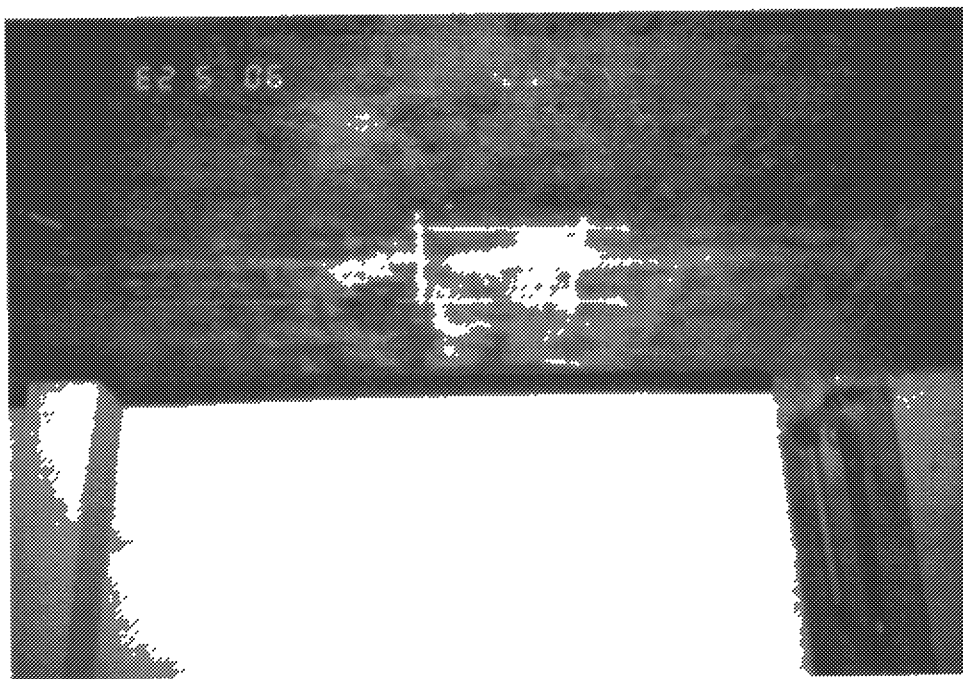


Photo 5: Drainage from floor to feeder pipe to former sump. View facing southeast.

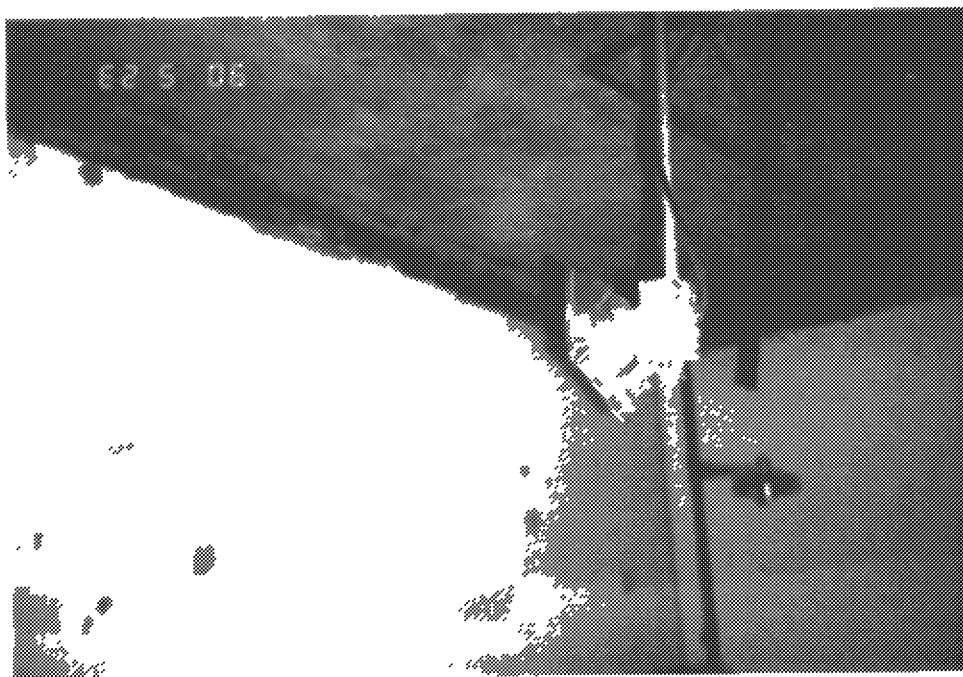
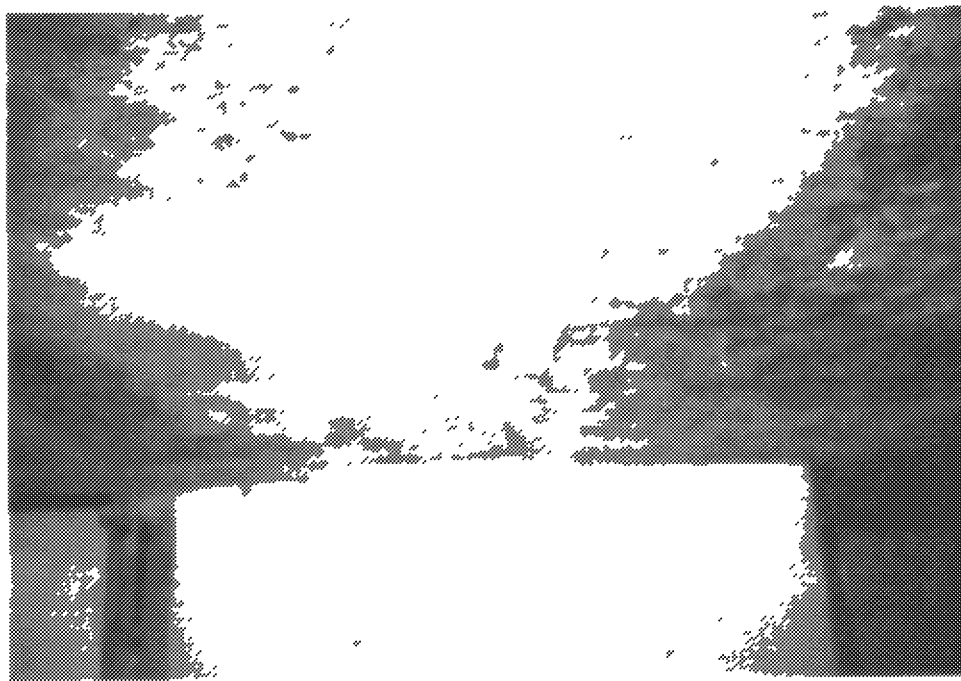


Photo 8: Far wall in photo is former location of hot oil area. View is facing north.



Photo 7: Former location of Dark Room. View is facing east.



DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL DIVISION
2151 BERKELEY WAY, ANNEX 7
BERKELEY, CA 94704



Inspection Report

Autek Systems Corporation
109 Bonaventura Drive
San Jose, CA 95134
(408) 263-4531

EPA ID #: CAT000623835

Inspected by: Julie Anne Poust

Date of Inspection: June 30, July 5, 1989

Date of Report: July 20, 1989

I. PURPOSE:

To conduct a scheduled RCRA interim status inspection.

II. REPRESENTATIVES PRESENT:

DHS: Julie Poust - Hazardous Materials Specialist

Autek: Robert Pereyda - Manufacturing Manager (June 30 only)
Kim Wishart - P. C. Shop Supervisor

III. OWNER/OPERATOR:

Real Property Owner:

Autek Systems Corporation
2302 Zanker Road
San Jose, CA 95131
(408) 946-2400

Roger and Wendy Mairose
c/o MAI Properties
96 Bonaventura Drive
San Jose, CA 95131

Exemption 6: Privacy

The people in charge of hazardous waste management at the facility on Bonaventura Drive are Robert Pereyda and Kim Wishart.

IV. BACKGROUND:

On June 14, 1982, Auber G. Ryals, Vice President of Auttek Systems, requested a variance from the permit requirements for their corrosive liquid neutralization sump. On November 1, 1982, the Department responded to Auttek by stating a concern of a possible leak from the three underground storage tanks. The Department stated they would consider the variance request if Auttek could demonstrate that the tanks had not, and will not, leak.

The facility has not actively pursued their request for a variance to do acid neutralization and metal precipitation. However, if the facility only treats by neutralization, wastewater with a pH between 2 and 6, and discharges the treated wastewater to a POTW, then Autek would be a non-RCRA, State-only facility, and would be eligible to be withdrawn from the EPA facility universe.

The facility has a waste discharge permit from San Jose Water Pollution Control: No. SJ007B.

The facility was last inspected by DHS on June 1, 1987. A Report of Violation was issued on June 30, 1987 citing lack of caution signs, failure to inform local emergency response personnel of the hazards associated with the facility, and failure to provide a copy of the contingency plan to local hospitals and other local authorities. Robert Pereyda, Plant Manager, responded to the cited violations prior to the issuance of the ROV, on June 19, 1987, based on a discussion during the exit interview on the day of the inspection with Juan Linares, DHS/S&E.

V. GENERAL FACILITY DESCRIPTION:

Autek Systems Corporation is a manufacturer of printed circuit boards for electronic test equipment in Autek machines. The operation includes electroplating. The facility at Bonaventura Drive houses:

1. Machine shop:

- a) Hot oil area - boards are fused together.
- b) Metal finishing - aluminum is graded, finished and cleaned.
- c) Aluminum parts machine, screw machine, and fiberglass machine.

2. Photo imaging: Film is developed and copied. The waste of concern is a photopolymer fume which escapes up a vent pipe.

3. Laboratory: Conducts analysis of the plating bath solutions 2-3 times per day. They analyze for the concentrations of copper, gold, and nickel, and pH.

4. Silk screening operation: Circuit boards are inspected and touched up and diagrams are printed onto the templates.

5. Plating shop: Copper and nickel plating. This is also the area where hazardous waste is stored.

6. Electronic printed circuit board fabrication shop: Printed circuit boards used in Autek instruments are produced here by cutting the boards in which the circuits will be fitted. Fiberglass dust is the main concern.

7. Neutralization sumps: Acidic wastewater is neutralized in a three-bay sump prior to discharge to the San Jose Water District.

8. Chemical storage: Oxidizers and Corrosives materials are stored in a separate room equipped with a 1 foot concrete berm and separate berms for the different classes of chemicals. The room is enclosed by a 2 hour fire wall.

Solvents (flammables) used in manufacturing are stored in an OSHA-approved flammables storage cabinet in the machine shop area.

VI. HAZARDOUS WASTE ACTIVITY DESCRIPTION:

1. Wastewater Neutralizing Sump:

The waste water pH neutralization system (sump) was designed by William M. Ryan Company. It is a three stage polypropylene settling sump with two automatic pH monitors and a control for sodium hydroxide injections for acid neutralization. The sumps are lined with concrete and coated with tar. There is no method for monitoring for underground leakage. The average daily volume of the flow-through treatment is 13,300 gallons per day.

Metals in the waste water from the fresh water rinses are removed prior to discharge to the neutralization sumps via a static drag out tank. The waste water pumped to the sumps contains sulfuric acid and traces of heavy metals, primarily copper, with a pH between 2 and 6. Sodium hydroxide is used as the neutralizing agent for the acid waste water. The acid waste is monitored as it enters the first of the three chambers. A pH transmitter signals a controller to add NaOH. A mixer agitates the waste water during the neutralization process. When mixing of the waste water stops, metal hydroxides are allowed to settle out in the second chamber. Further settling occurs in the third outlet chamber. A second pH monitor checks the pH in the third chamber. The pH after treatment is between 6 and 10. Copper still in the solution is generally less than 2 ppm. The pH monitors are located in the photo imaging room (See photos 14, 15 and 16.)

The effluent is tested monthly by the San Jose Water District, Industrial Waste Control Section for pH, heavy metals, and fish bioassay. Autek hires an independent laboratory, currently Hull

Labs, to conduct an analysis of the waste water in the third sump, generally weekly. There is no analysis conducted for the first sump other than the pH which is monitored by Autek. Sludge from the settling of the metals is pumped out and transported to a Class 1 landfill.

2. Plating Room:

Copper, Solder, Nickel, and Gold plating occurs in the Plating Room, also known as the Wet Room. The room has a wooden pallet floor. Wastes from the working baths are pumped to 55 gallon drums for satellite accumulation (see photos 7-10).

Hazardous waste from the entire facility accumulates in 55-gallon drums in a sunken area with a 6" berm in the Plating Room (see photos 11, 12, and 13). The berms are made of redwood, bolted and sealed into the concrete floor sealed with tar. Three bays separate acids (6' x 9'), caustics (6' x 9') and oxidizers (4' x 9').

Copper sulfate crystals and spent anode filter bags are currently disposed of in a Class 1 landfill, however, the copper sulfate will be recycled by Great Western with the next shipment. Acid waste without metals is treated in the neutralization sumps. The other plating wastes are manifested to Solvent Service.

The facility plans to build a waste treatment system in which water is removed from the wastes and the waste stream is reduced to a solid. The process is referred to as Precipitation Technology.

3. Machine Shop:

The Machine Shop is where the various components are assembled, graded, and finished. Flammables are stored in a cabinet next to this area. A Metal Finishing area grades and finishes aluminum (see photo 18). An aluminum parts machine cleans and finishes 6061, 2024 and 6063 aluminum alloys. The waste aluminum chips are recycled. A screw machine uses cutting oil which is recycled by Solvent Service. Also, a vapor degreaser using trichlorotrifluoroethane (freon) is employed in this area for cleaning parts. The spent freon is exchanged for product at Bayday Environmental (see photo 17).

VII. OBSERVATIONS:

The inspection began with a site tour of the facility with Robert Pereyda and Kim Wishart (see site plan for location). We started in the Inspection and Touch-Up Room. Parts are soldered and inspected and touched-up. A silk screening machine is in the corner (see photo 3) which prints a diagram of the location of

the various circuits is printed onto the part for future assembly.

From there we went into the Laboratory and Plating Room. The lab is used for simple analysis of the plating baths to determine the concentrations of copper in the baths, by titrations, and pH (see photo 2). Photo 1 depicts nickel and gold plating baths.

We proceeded to the Dry Film Room where film is copied by reverse imagery. Also, photo tools are produced. Photopolymer fumes from the process are vented through a pipe which leads to the outside (See photo 4).

A Fabrication Room is across from the Dry Film Room. Here, plastic templates are traced and then cut in order for the circuits to be placed in the spaces. Fiberglass dust is the main health concern in this area (see photo 5).

We next entered the Plating Room (also known as the Wet Room.) The Room has wooden floors and was wet in some areas where aqueous rinse waters were overflowing the tubs. Drums of waste and product accumulate near the areas of use (satellite accumulation).

On June 30, three drums of waste were accumulating along the eastern aisle, along with three drums of product used in the machines and baths and one empty drum for waste immersion (a tin waste solution). One was a drum of waste scrubber water from the scrubber machine (D008) which had been accumulating since June 15 next to the machine (see photo 8). Another was a drum of waste brown oxide drag (D002) from the drag out tank used to dip parts into the rinse waters accumulating since June 28. The waste came from the white bath (see photo 9). A third waste was a black drum from a 95% sulfuric acid dip tank shown as the white covered bath (see photo 10). The three product drums were a SnPb-2000 drum (a solvent cleaner and activator) and two drums of Cyclo-Etch.

Along the northern wall of the Wet room is a sunken waste storage area separated into three bays. Twenty three drums were in this area (see photos 11-13), one of which was a product drum of nitric acid, and four were empty. The remaining waste drums consisted of:

- a) two drums of ammonium hydrogen fluoride (D002)
- b) two waste fluoroboric acid (tin/lead drag out)
- c) two waste corrosive drums of acid copper drag out
- d) one waste corrosive drum of etch drag out
- e) two drums of super caem (a tin waste)
- f) one drum of copper sulfate crystals
- g) two drums of anode filter bags
- h) six drums of fuel oil.

The closure plan states that the maximum inventory at any time is 10-12 drums, however, there were 18 drums of waste packed closely together in the storage area and 3 drums of waste in satellite accumulation in this area. Wishart explained that the storage area was more full than usual because the person in charge of disposing of the waste was on vacation. All of the drums were accumulating less than 90 days and all were properly labeled.

The pictures, taken on July 5 show basketball equipment on top of the drums. This equipment was not here on June 30. Wishart explained that the building was going to be painted and the basketball equipment had to come down. Autek employees put the equipment on the drums as a temporary measure.

Next we walked outside of the Wet Room where the Chemical Storage Room is located. There are no pictures, however, only products of corrosives and oxidizers are stored here. A sign on the wall depicts where each product is to be stored based on its composition and hazard.

From here, we walked outside to the neutralization sumps. They are enclosed behind a chain link fence with redwood slats. A sign on the gate warns that only authorized personnel are permitted to enter (see photo 14). Photo 15 shows the sumps with the agitator and pH probes. The monitors are shown in photo 16. The monitor on the left is for the initial pH and the monitor on the right is the final pH. Pereyda explained to me that they added the second pH monitor in the final bay because they discharged some waste water that did not meet the San Jose Water District's specifications several months ago. On July 5, when these photos were taken, the initial pH was 7.5 and the final pH was 6.17.

Back inside the building, we walked to the machine shop. A vapor degreaser is located along the eastern wall. One drum of spent freon with an accumulation date of May 21 was located next to the machine (see photo 17). A drum of freon product was next to the drum of waste.

A Hot Oil Reflow machine is used to fuse boards together. The temperature is pre-heated to 270° F and the reflow is set at 400°F. (See photo 6.)

The various metal machines are also in this area. The machines are used to cut, clean, and grade the aluminum parts. Photo 18 is showing the metal cleaning machine. Aluminum filings and chips accumulate here and around the machine shop in bins and metal trash cans to be recycled.

Following the site tour, I went into the office area in order to review the facility's plans and other documents. The following is a list of the documents that were reviewed while at the facility on June 30, 1989:

- a) Manifests 1986-1989
- b) Operating Record
- c) Training Plan and Documents
- d) Contingency Plan
- e) Waste Analysis Plan and Documents
- f) Closure Plan
- g) Inspection Plan and Documents
- h) Inventory of Waste On-Site

The following documents were unavailable for review:

- a) 1987 and 1988 Annual Report
- b) Notification of Land Disposal Restricted Wastes

The following documents were given to me on my return on July 5, 1989 (see attachments 10-12).

- a) Job descriptions
- b) BOE Generator Fee for 1988
- c) BOE Tax Returns for 1988 (4 quarterly returns)

VIII. Violations:

1. California Code of Regulations (Cal. Code Regs.) Title 22, Section 67102(b)(1) and (2) and Interim Status Document (ISD) Section III. 3(b)(1) and (2):

The current Waste Analysis Plan is found in the January 1986 revision of the Operation Plan. The waste analysis plan was found to be inadequate in that it failed to specify the parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters, and the test methods which will be used to test for these parameters (see Attachment 3).

2. Code of Federal Regulations, Title 40, (40 CFR) Part 265.15(b)(4) and Cal. Code Regs., Title 22, Section 67104(b):

Autek does not follow their inspection schedule. The inspection schedule states that inspections of the loading and unloading areas occur daily, however they are conducted weekly (see Attachment 4 and 5).

3. Cal. Code Regs., Title 22, Section 67104(d):

The inspection log is inadequate in that the time of the inspection is not recorded (see Attachment 5).

4. Cal. Code Regs., Title 22, Section 67105(c) and ISD III. 6(c):

Facility personnel do not take part in an annual review of

the initial training required in 67105(a).

Robert Pereyda's training records indicate that he was formally trained on December 15, 1981, July 23, 1982, and November 19, 1982. The records indicate that Mr. Pereyda has not attended any training since 1982.

5. Cal. Code Regs., Title 22, Section 67105(d)(1)(3) and (4) and ISD III. 6(d)(1)(3) and (4):

The facility does not maintain the following documents pertaining to training (see Attachment 7):

a) Name of employee filling each job related to hazardous waste management;

b) Written description of the type and amount of both introductory and continuing training that will be given to each person;

c) Records, other than those stated in Violation 4, that document that the training or job experience has been given to, and completed by, facility personnel.

6. Cal. Code Regs., Title 22, Section 67141(c) and (d) and ISD III. 13(c) and (d) and III. 15(c):

The current Contingency Plan is found in the January 1986 revision of the facility Operation Plan. The contingency plan is inadequate in that it does not describe the arrangements agreed to by local police and fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services (see Attachment 7).

7. Cal. Code Regs., Title 22, Section 67143(e):

The Contingency Plan was not amended when the list of emergency coordinators changed. The plan states that Mike Cowlshaw is the secondary emergency coordinator, when in fact, Mr. Cowlshaw no longer works for the Autek and Kim Wishart is currently filling that position (see Attachment 7).

8. Cal. Code Regs., Title 22, Section 67165 and ISD IV. 3.:

Autek did not prepare and submit an Annual Report to the Department by March 1 of each year. The last time the facility submitted an Annual Report was on April 3, 1987 for the 1986 calendar year (see Attachment 9).

9. 40 CFR Part 265.73(b)(10):

The facility's operating record did not contain, for Land

Disposal Restriction wastes treated on-site, information contained in the notice required by a generator under Part 268.7(a)(1) (wastes that are treated in the neutralization sumps).

10. Cal. Code Regs., Title 22, Section 67212(b)(1)(2) and (4) and ISD V. 2(a)(1)(2) and (4):

The facility's closure plan is found in the January 1986 revision of the operation plan. The closure plan is inadequate in that it does not:

- a) identify the maximum extent of the operation which will be open during the life of the facility;
- b) include an accurate estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility; and
- c) include in the schedule for closure the expected year of final closure including the intervening milestone dates which will allow tracking of the progress of closure.

The closure plan states that 10-15 drums of waste would be the maximum inventory, however, 23 drums were in storage and 4 drums were in satellite accumulation on the day of this inspection. In addition, the plan does not include waste in treatment (see Attachment 9).

11. 40 CFR Part 265.112(b)(3)(4) and (5):

The facility's closure plan (see Attachment 9) is inadequate in that it does not include:

- a) the identification of and types of off-site hazardous waste management units to be used;
- b) a detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including:
 - 1. procedures for cleaning equipment and removing contaminated soils;
 - 2. methods for sampling and testing surrounding soils;
 - 3. criteria for determining the extent of decontamination necessary to satisfy the closure performance standard.

12. 40 CFR Part 265.195 (a)(1-4), Cal. Code Regs., Title 22, Section 67254(a)(1 and 2) and ISD VII. 3(a)(1 and 2):

The facility conducts weekly, instead of daily, inspections of the following areas regarding the neutralization system (see Attachment 4):

- a) overfilling control equipment (waste feed cutoff systems and bypass systems);
- b) the aboveground portions of the system to detect corrosion or releases of waste;
- c) data gathered from monitoring equipment (pH monitors);
- d) the construction materials and the area immediately surrounding the externally accessible portion of the tank system to detect erosion or signs of releases of hazardous waste.

13. Cal. Code Regs., Title 22, Section 67002(b) and ISD VI. 1(c):

Autek did not adjust the closure cost estimate for inflation and submit the adjusted cost estimate to the Department by March 1 of each year. The last time Autek submitted a closure cost estimate to the facility was on April 3, 1987 with their 1986 Annual Report (see Attachment 8).

14. Cal. Code Regs., Title 22, Section 66508(a)(3):

The neutralization sumps that treat acidic waste accumulates a copper sludge. The sumps are not labeled with the words, "Hazardous Waste" (see photos 14-16).

15. Cal. Code Regs., Title 22, Section 66508(a)(2):

The hazardous waste containers in the drum storage area do not have the accumulation date visible for inspection (see Photos 11-13).

16. Cal. Code Regs., Title 22, Section 67124:

Autek does not maintain aisle space to allow the unobstructed movement of emergency equipment at the drum storage area. The drums are packed together so tightly that the middle row cannot be reached in case of a leak or spill (see photos 11-13).

The following are violations pertaining to the Land Disposal Restrictions:

17. 40 CFR Part 268.32(i):

Autek did not determine if waste sludges and solids were California list liquids by performing the Paint Filter Liquids Test.

18. 40 CFR Part 268.33(g) and 268.7(b)(1):

Autek did not determine whether their F006, F007, and F009 wastes exceeded the applicable treatment standards by testing a representative sample of the waste extract or the entire waste using the EPA method Toxicity Characteristic Leaching Procedure (TCLP).

IX. SAMPLE SUMMARY:

No samples were taken.

X. DISCUSSION WITH MANAGEMENT:

June 30, 1989: After my review of all the documents and plans available to me at Autek, I still had some questions for Robert Pereyda. My questions were regarding missing documents such as the training records documenting that training had occurred and the job descriptions and names of individuals filling those positions; the 1987 and 1988 Annual Reports; documentation of financial assurances; and the BOE tax returns. Mr. Pereyda stated that if they could not find the Annual Reports, then they probably did not prepare them, however, I allowed Mr. Pereyda until Wednesday, July 5, 1989 to locate the Reports and the other missing documents when I would return to take pictures.

Next, I went over the deficiencies I found by going over the ISD checklist with him. Mr. Pereyda expressed concern about the severity of the violations. I told him that the observed violations were all Class 2 violations which usually do not constitute a formal enforcement case. I also told him that the final decision of the type of enforcement is not mine to make. I informed Mr. Pereyda he would be getting a formal letter from us stating all the violations within 45 days (August 15, 1989).

XI. ATTACHMENTS:

1. Map of Facility (2 pages)
2. Photographs (19 photos on 9 pages)
3. Waste Analysis Plan (3 pages)
4. Inspection Schedule (1 page)
5. Inspection Log - Loading and Storage Area (1 page)
6. Training Plan (2 pages)
7. Contingency Plan (2 pages)
8. 1986 Annual Report (4 pages)
9. Closure Plan (4 pages)

10. Job Descriptions (7 pages)
 11. BOE Generator's Fee (1988) (3 pages)
 12. BOE Tax Return (4 quarterly returns 1//88-12/88) (12 pages)
 13. Results from FRU Evaluation (1 page)
 14. ROV from FRU dated July 7, 1989 (2 pages)
 15. ISD checklist
 16. Generator checklist
-

Julie Anne Poust

Julie Anne Poust
Hazardous Materials Specialist

July 20, 1989

Date of Submittal

Patricia Barni

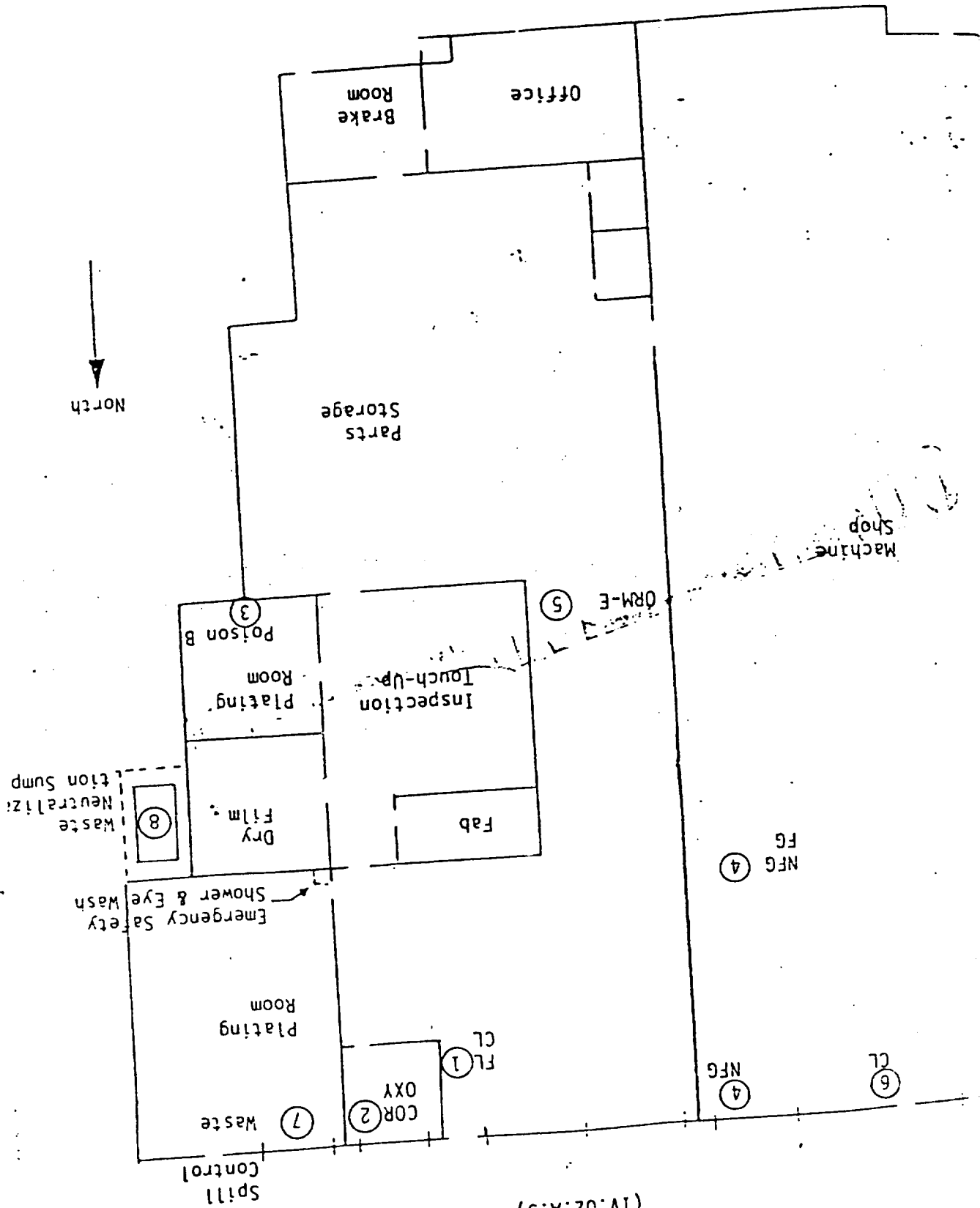
Patti Barni
Sr. Hazardous Materials Specialist

July 20, 1989

Date of Approval

ATTACHMENT 1

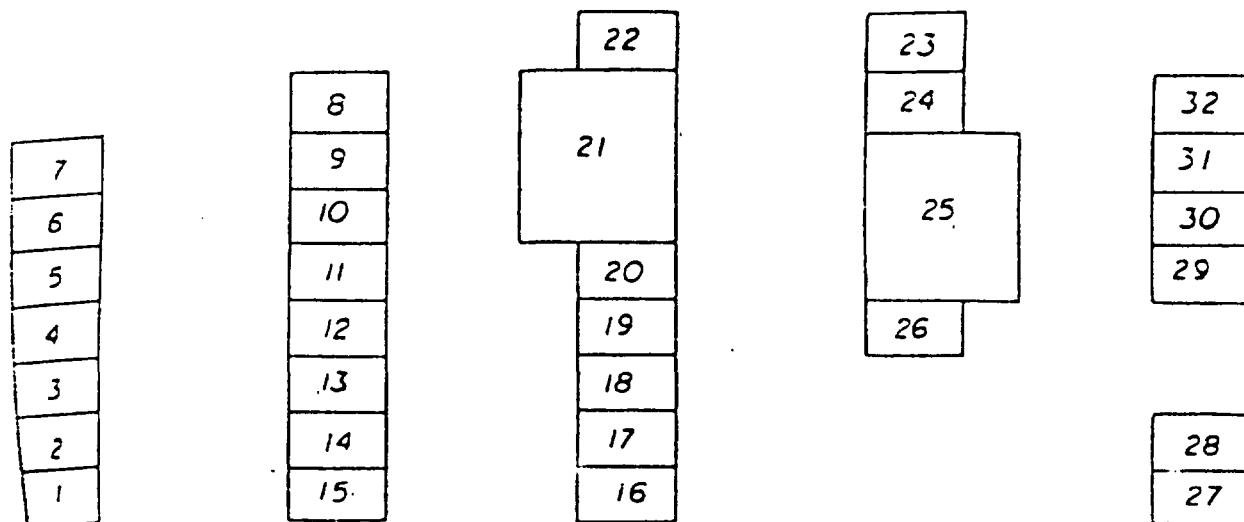
Autek Systems
109 B. Ventura Dr.
San Jose
Facility Storage Map
(IV.02.A.3)



6.0

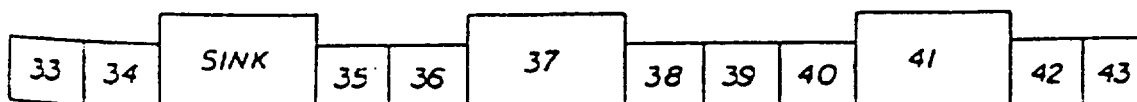
APPENDIX

6.1

MAP OF WORKING BATHS

(a) WETROOM AREA

- | | |
|--|--|
| 1. Alkaline Cleaner | 23. Spray Rinse |
| 2. Water Rinse | 24. 10% Fluoboric Acid |
| 3. Sulfuric Peroxide Etch | 25. Solder |
| 4. Water Rinse | 26. Water Rinse |
| 5. 10% Sulfuric Acid | 27. Dryfilm Stripper |
| 6. Water Rinse | 28. Water Rinse |
| 7. Pre-Dip (NaCl/NaHSO ₄) | 29. Neutralizer (HL-21) |
| 8. Catalyst (Pd in HCl) | 30. Water Rinse |
| 9. Water Rinse | 31. SnPb Solder Conditioner (NaOH) |
| 10. Water Rinse | 32. Water Rinse |
| 11. Accelerator | 33. Solder Stripper |
| 12. Water Rinse | 34. Water Rinse |
| 13. Electroless Copper | 35. 10% Sulfuric Acid |
| 14. Copper Dragout | 36. Water Rinse |
| 15. Water Rinse | 37. Nickel (Acidic NiSO ₄) |
| 16. Cu/HL 30 Acid Cleaner | 38. Water Rinse |
| 17. Spray Rinse | 39. 10% Sulfuric Acid |
| 18. Activator ND | 40. Water Rinse |
| 19. Water Rinse | 41. Gold |
| 20. 10% Sulfuric Acid | 42. Gold Dragout |
| 21. Copper (Acidic CuSO ₄) | 43. Water Rinse |
| 22. Water Rinse | |



(b) TIPS AREA

Photos by: Julie Poust / July 2, 1989

Attachment 2



Photo 1: Nickel and Gold Plating Baths in Laboratory / Plating Room

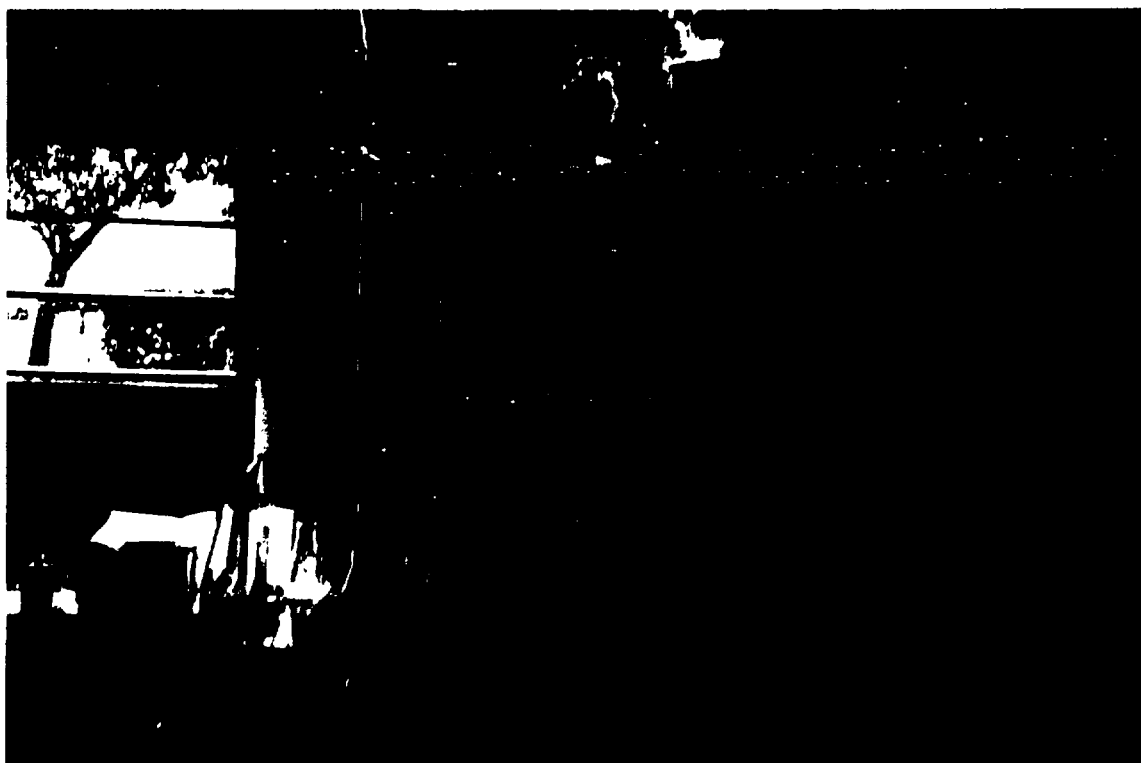


Photo 2: Laboratory area where the concentration of copper in the plating baths is determined by titrations. Also, pH is monitored.

Photos by: Julie Poust / July 1, 1989

Attachment 2

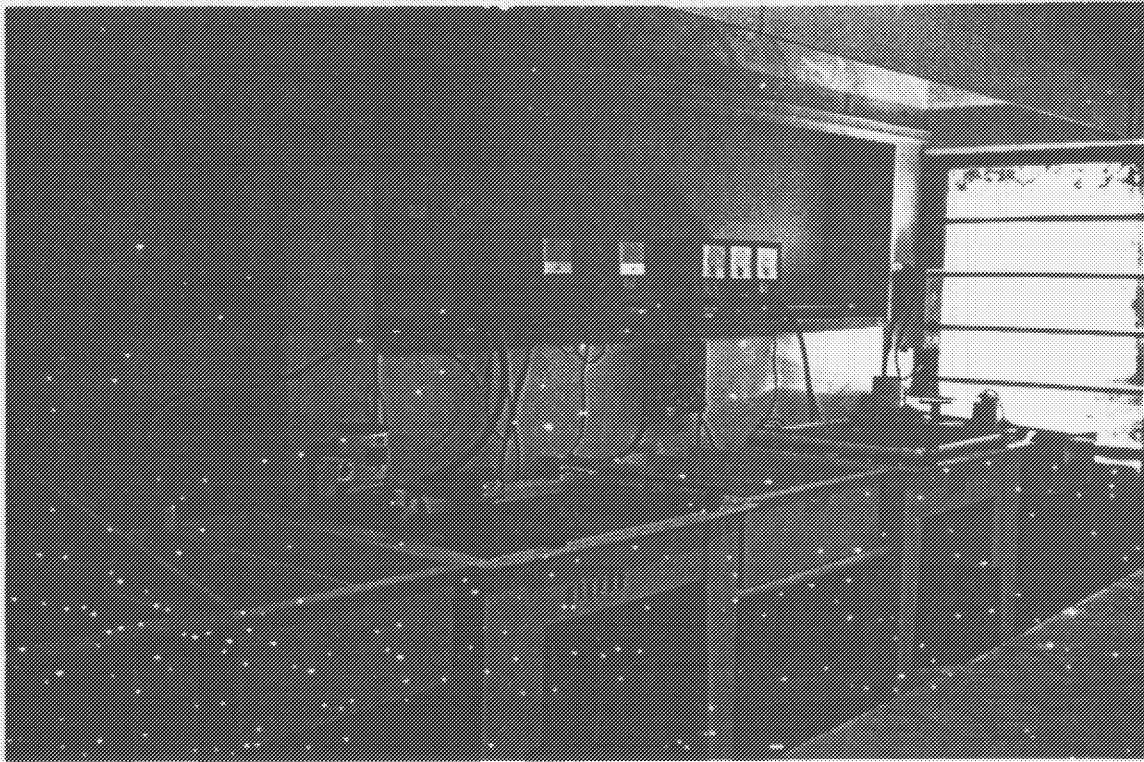


Photo 1: Nickel and Gold Plating Baths in Laboratory / Plating Room

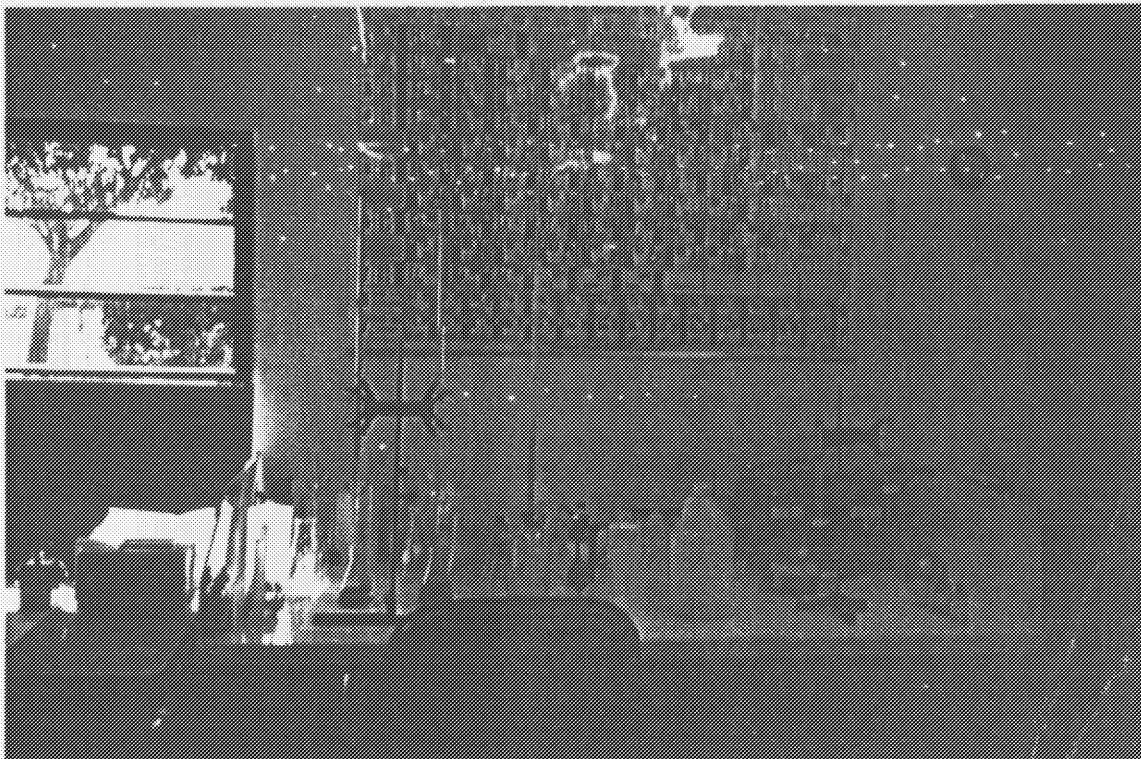


Photo 2: Laboratory area where the concentration of copper in the plating baths is determined by titrations. Also, pH is monitored.

Jule Faust
7/5/89

AUTEK SYSTEMS CORPORATION

Page 2 of 9

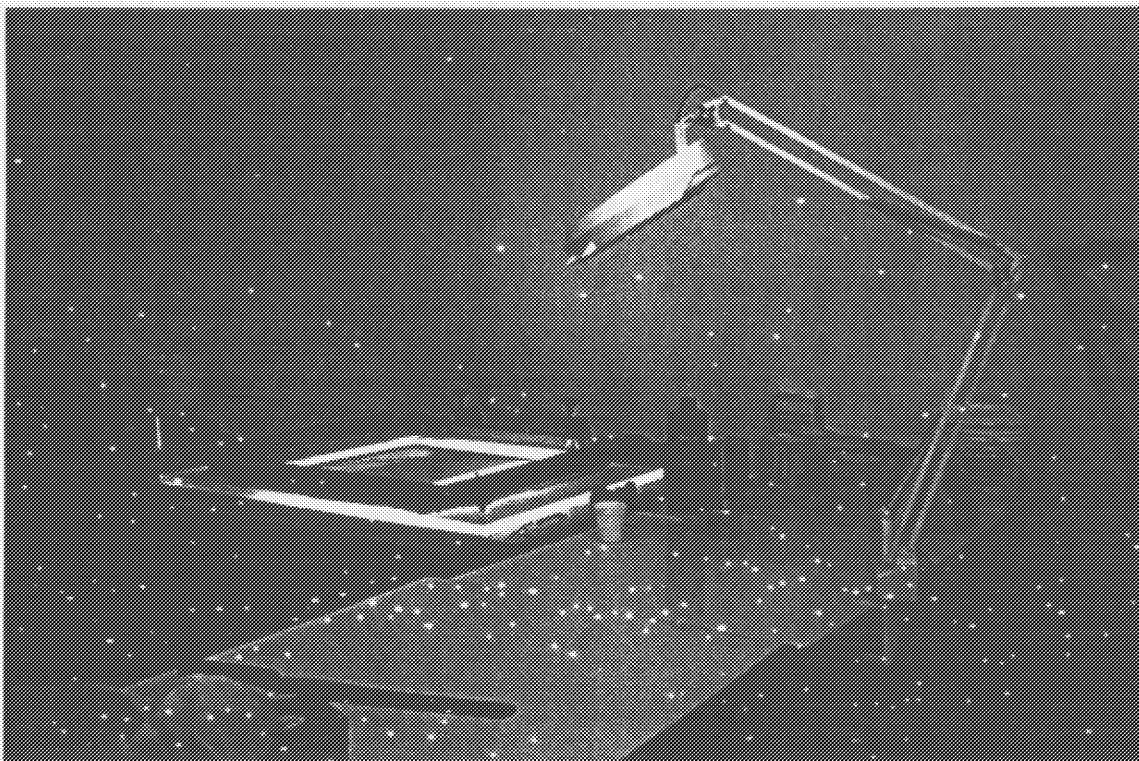


Photo 3: Silk Screening Area where diagrams are printed onto the templates. Some containers of epoxy, various paints, and solvent on table. Containers are products.

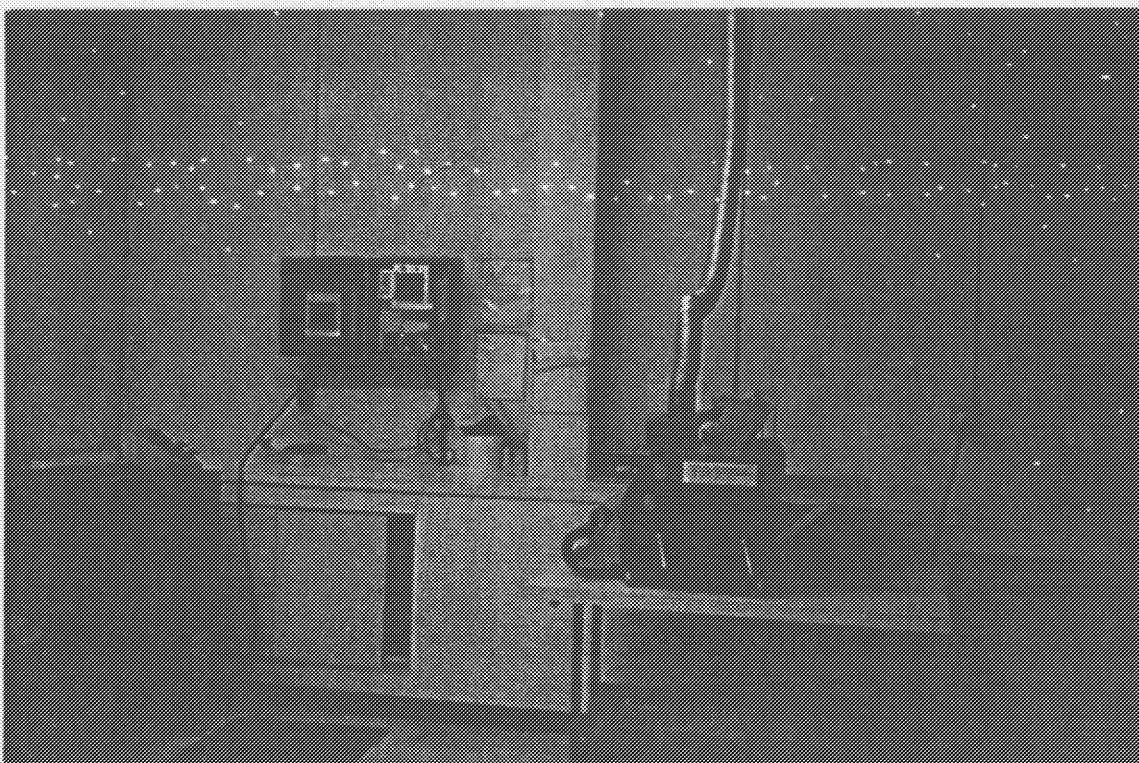


Photo 4: Dry Film Area: Photopolymer fumes are vented through the silver covered pipe which leads to the outside.

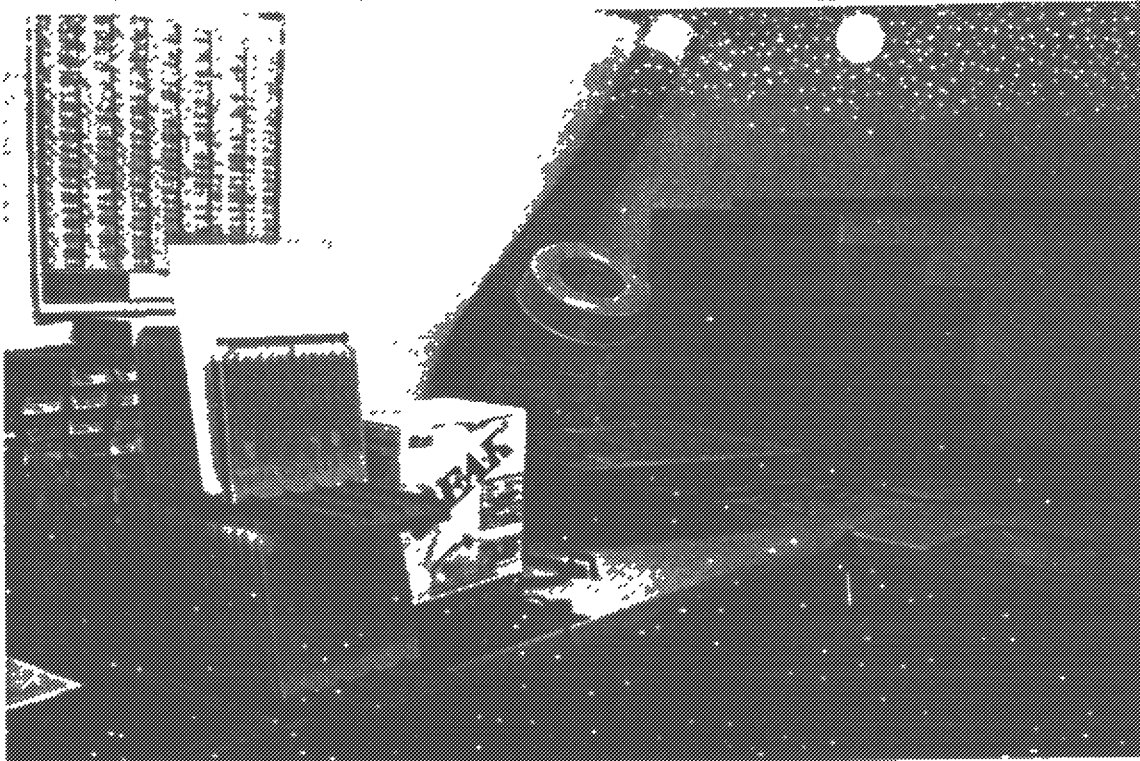


Photo 5:

Fabrication Room where templates are cut so circuits can be fitted into the slots. Fiberglass dust is the main health concern during operations.



Photo 6: Hot Oil Reflow Department where the temperature in the oven reaches 400°F. The oven is used to fuse the circuit board templates together. Drums of fuel oil were on the left (photo

Photo 8: Drum of waste scrubber water from the white tank on the right. Drum is in safe area. accumulation since June 15, 1989.

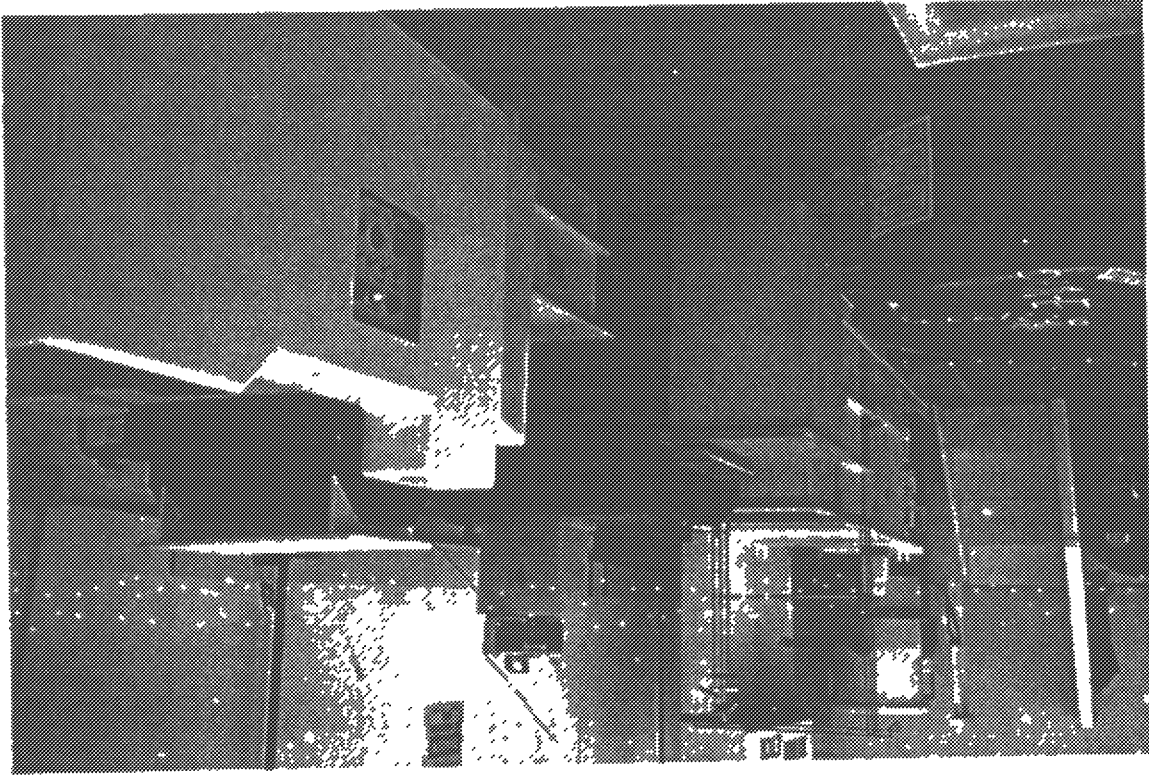


Photo 7: Autok employee pumping contaminated plating bath solution into a 55 gallon drum in the Wet Room. The drum will be placed in the termed hazardous waste storage area in background.



Autok Systems Corporation

John (602) 441-1111
7/5/89

John P. Clark
7/2/89

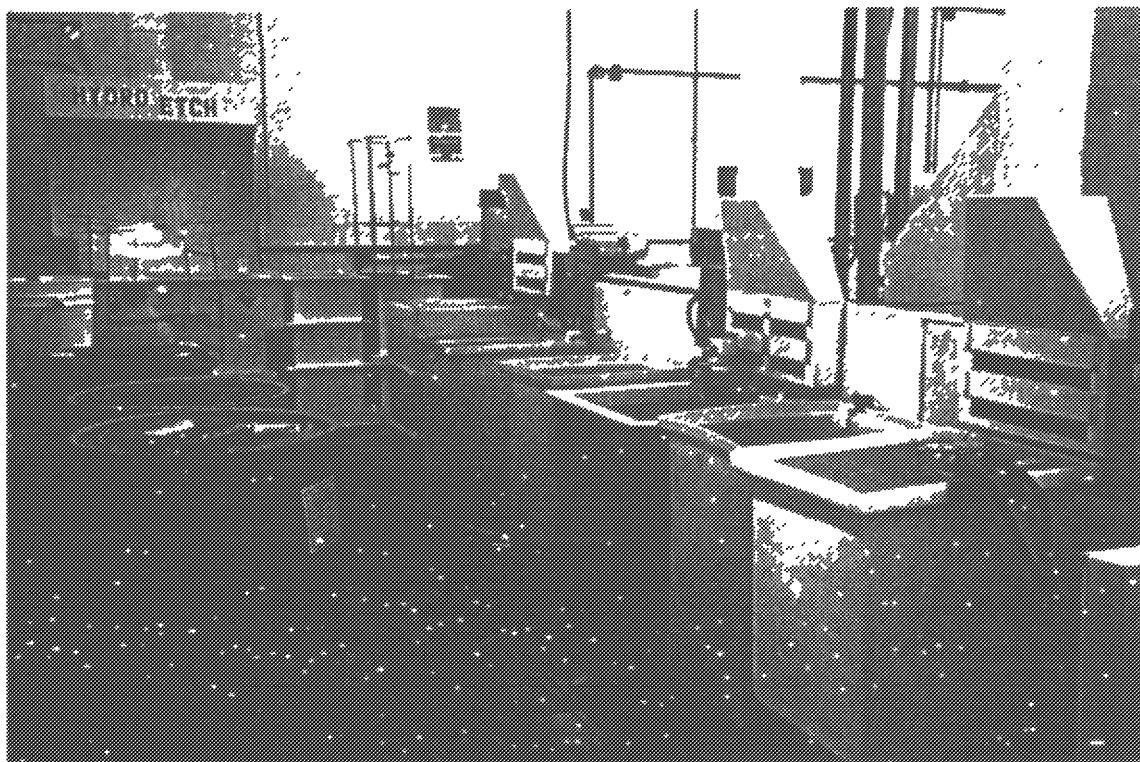


Photo 9: The blue drum with the hazardous waste label is in satellite accumulation. It contains brown oxide drag waste from the white tank on the right.

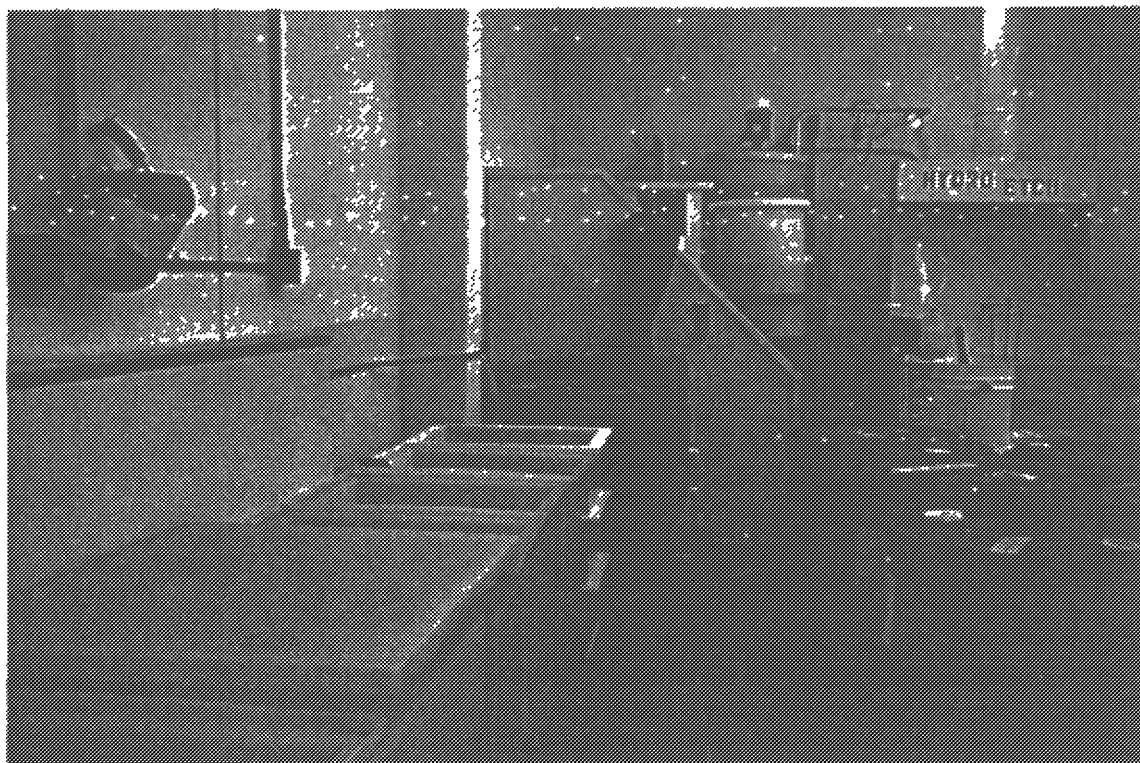
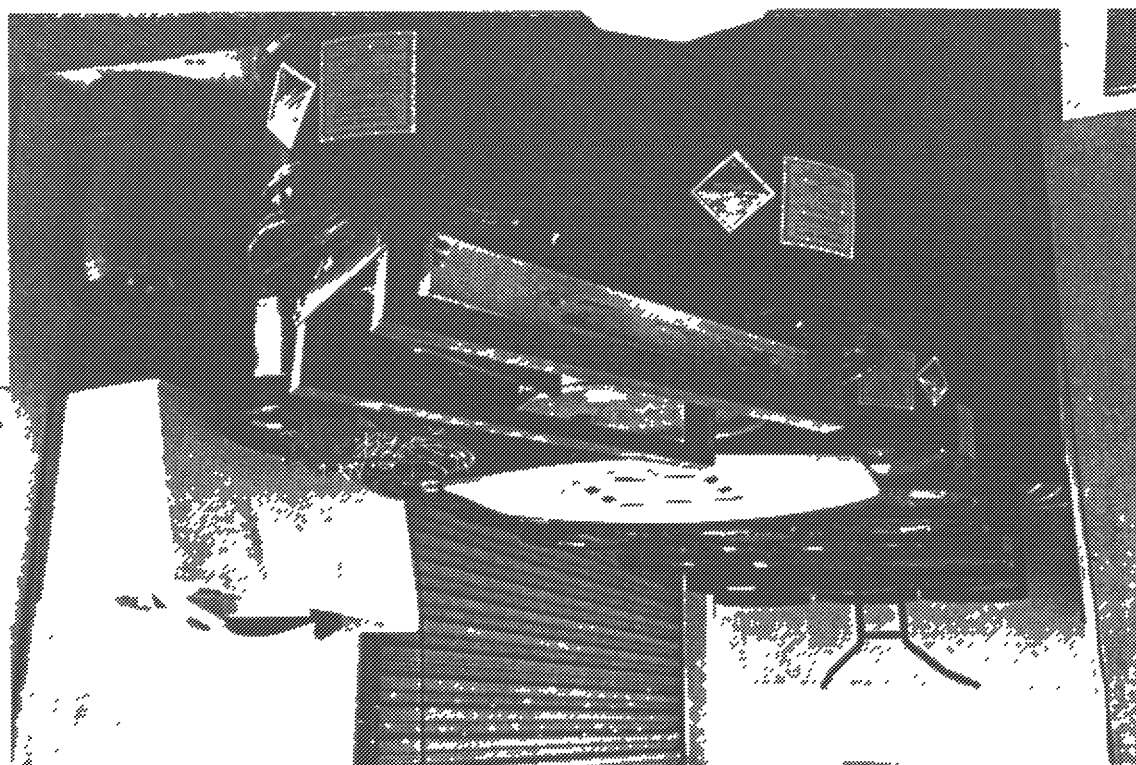


Photo 10: The black drum contains waste concentrated sulfuric acid from the white, covered tank. This drum is in satellite accumulation in the wet room.

Three views of Sunken
drum storage
area with
23 drums -
three of which
are empty
and one with
a product
The basketball
equipment
was not there
on 6/30/89.

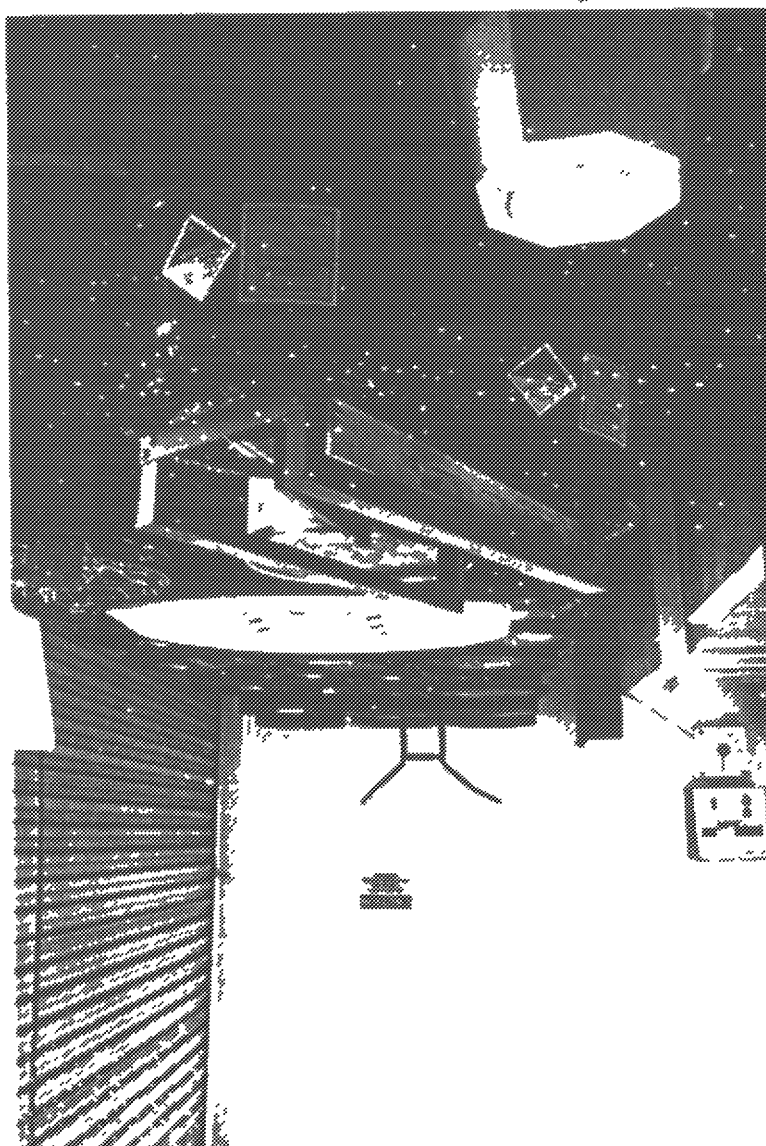


7/1/89
K. W. W. W.

Photo 13

Photo 12

Photo 11



1/2/89

1/2/89

AUTEX SYSTEMS Corp.

John Paul
7/5/89



Photo 14:
Chain-link
fence to
Neutralization
sumps

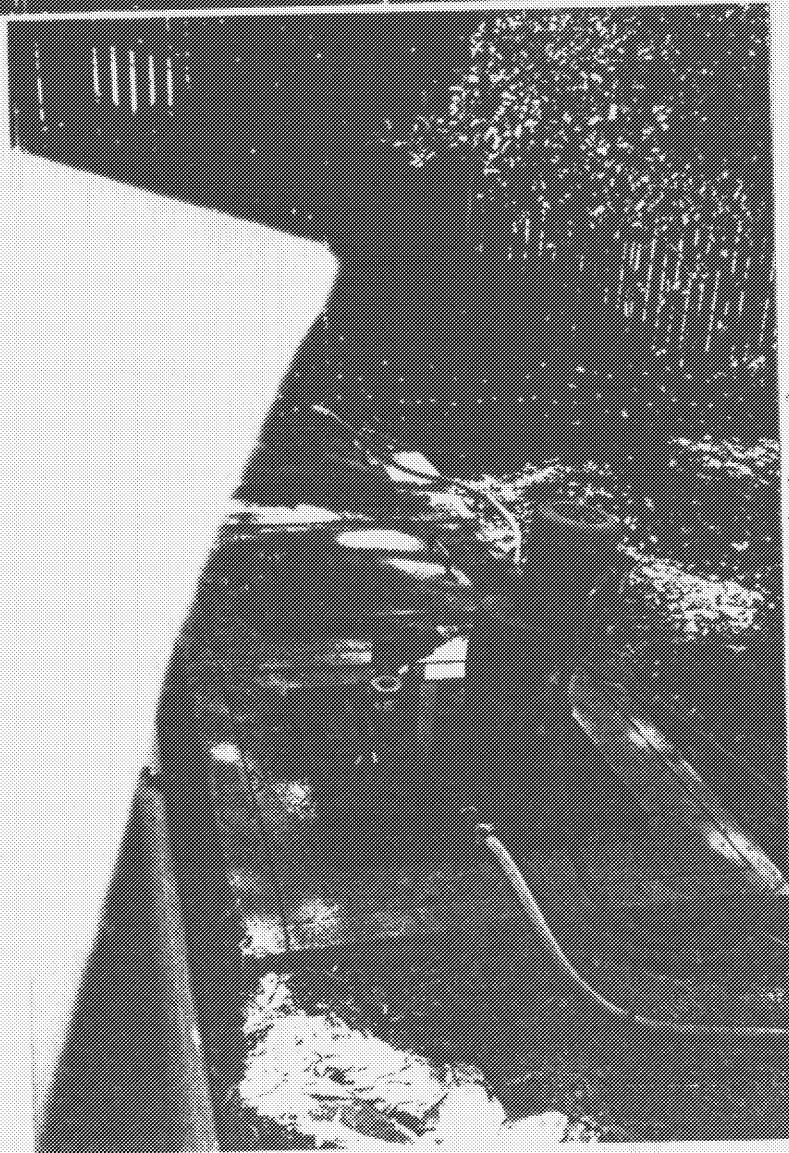


Photo 15:
3-Bay Neutralization
sumps. Waste enters
into sump at the
bottom of this photo.
The agitator (large
device) mixes the
wastewater to facilitate
precipitation of Cu and
monitoring for pH. The
pH monitor is the small
probe. The third bay
also has a pH probe.
Neutralized wastewater
is discharged from the
system to the San Joaquin
water District (POTW).
The agitator was on
at this time and
NaOH.

John Post
7/5/89

AUTOTEK SYSTEMS CORPORATION

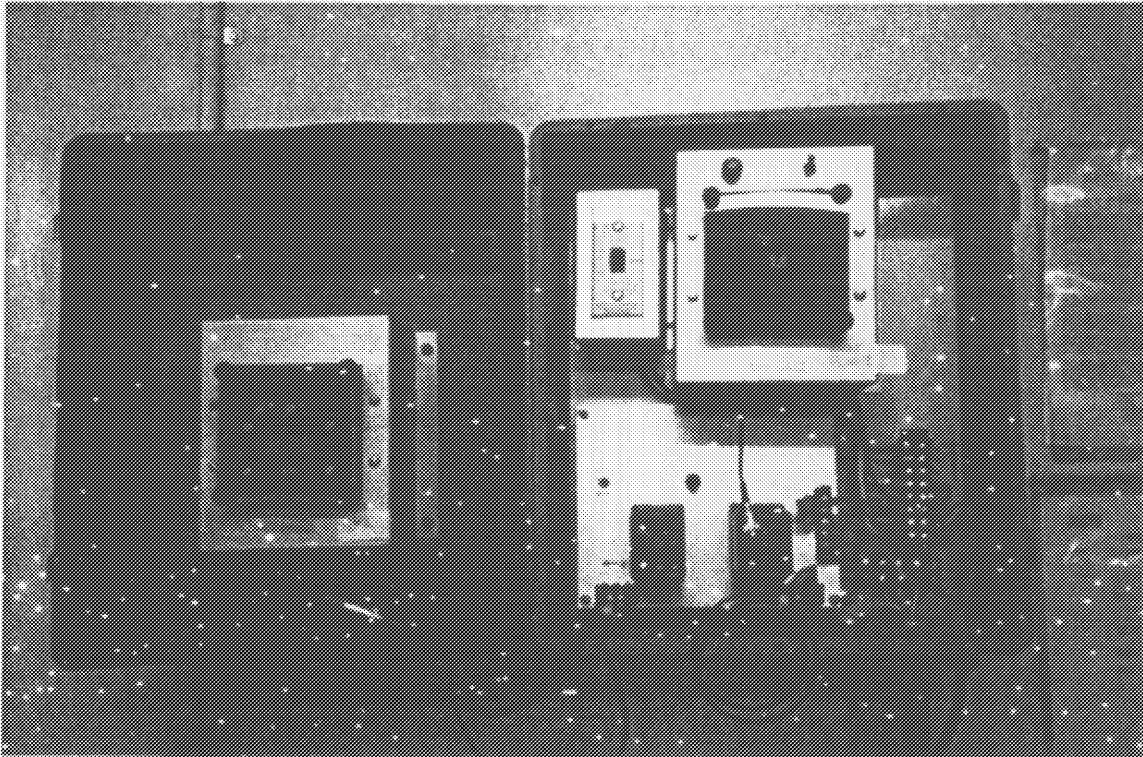


Photo 16: pH monitors for the neutralization sumps inside the Dry Film Room. The monitor on the right is the final pH (7.5) and the monitor on the ~~right~~ left is the initial pH (6.17).

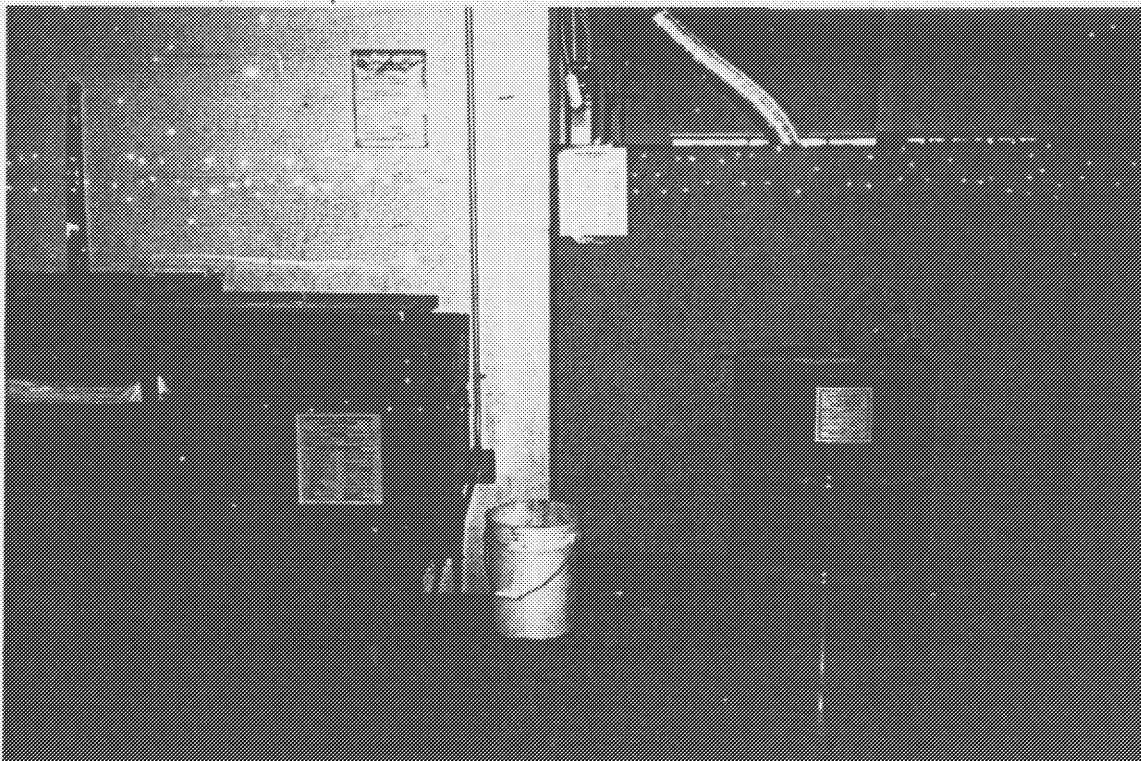


Photo 17: Vapor degreaser machine on the left and spent freon on the right in the Machine Shop Area.

Druck
7/3/89

AUTEC SYSTEMS CORP.

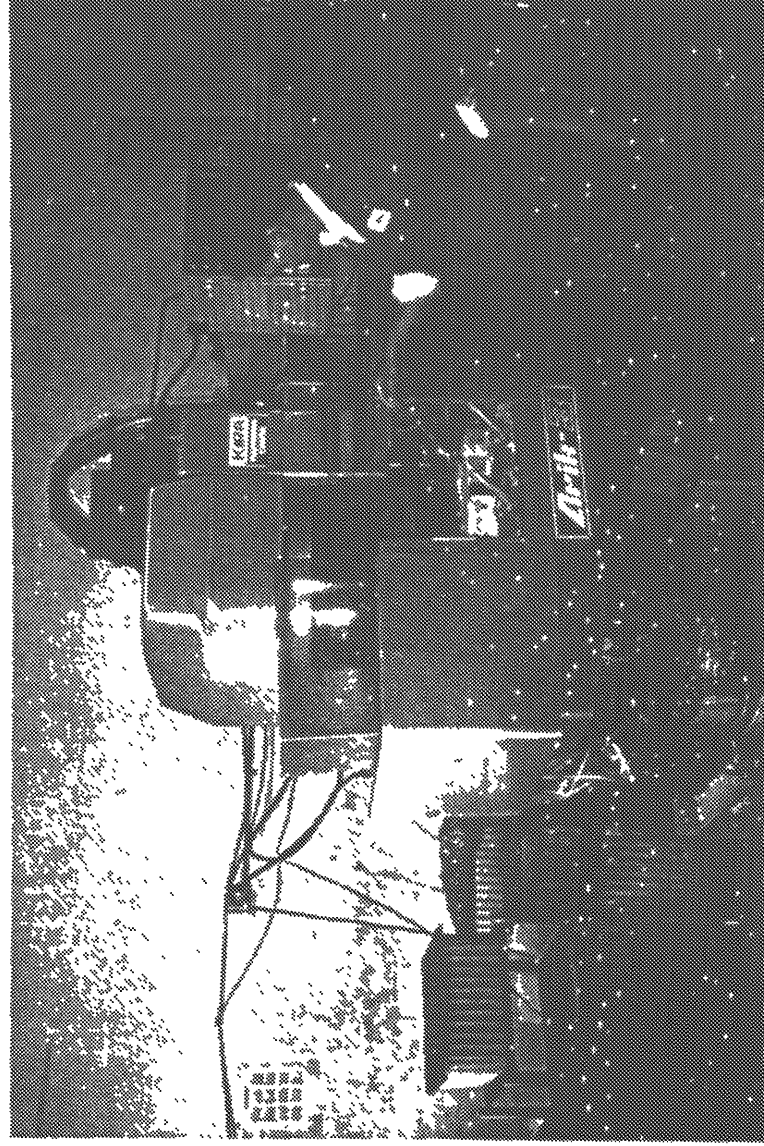


Photo 18: Aluminum parts cleaning machine. Note aluminum chips in plastic tubs and metal trash cans.

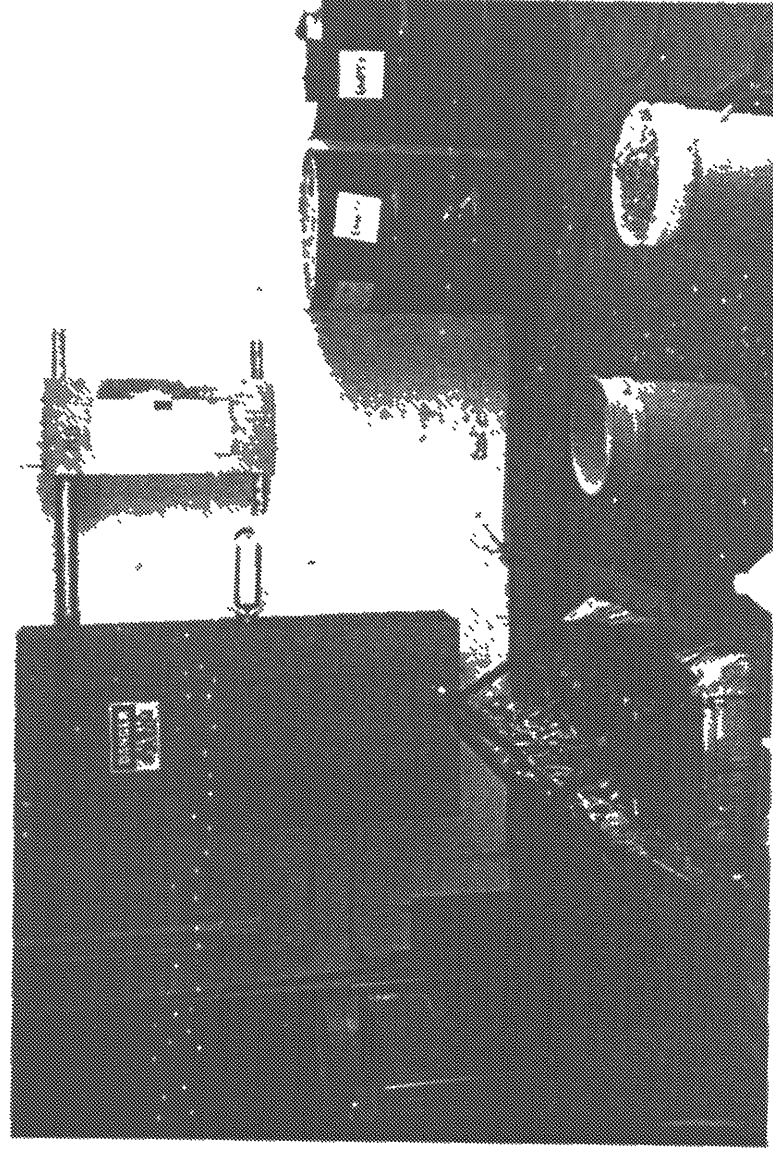


Photo 19: Non-hazardous resin-filled cardboard box with machine parts ranging in the Machine Shop Room. Empty pressure hot oil drums to be returned for deposit.